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Archaeological
Institute
of America

CRETAN EXPEDITION[1]

XXI

GORTYNA

I. SOME CONTRIBUTIONS TO ITS TOPOGRAPHY

THE researches which I made in the central part of Crete during the spring and summer of 1894, had for their principal aim to mark all the points of this complex region in which traces of the Mycenaean civilization came to light; to complete, to the best of my power, the observations made by others before me, — especially by Halbherr, Fabricius, Mariani, and Evans, — and to obtain some results of a general character in this order of explorations which gave signs of being largely fruitful.

The great valley of Messarà and the regions bordering thereupon had already yielded certain traces of primitive settlements, — some of the Mycenaean age, others of epochs of an earlier civilization. Hence, it was natural I should be inspired with the lively desire to examine whether Gortyna also, a city which became so important a centre in the classic times, had been itself a seat of this same Mycenaean culture, which discoveries had already shown flourishing in the early days of other illustrious localities of the historic age. (Cf. Fig. 1.)

I must, however, confess at once that such exploration, directed especially around the Hill of Haghios Joannis, at a short distance from Haghioi Deca, in the place where rose the Acropolis of Gortyna, was not crowned with the success anticipated.

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[1] Continued from Vol. V, p. 451.

The acropolis of H. Joannis is now wholly covered with the ruins of so many strata of habitations, that the traces of the primitive "Aegean or Mycenaean" seat must be in that place quite buried beneath heaps of ruins. And as circumstances did not admit of a systematic excavation, I was forced to renounce my original plan and hence leave unanswered the question I had asked myself; that is, — if the importance of

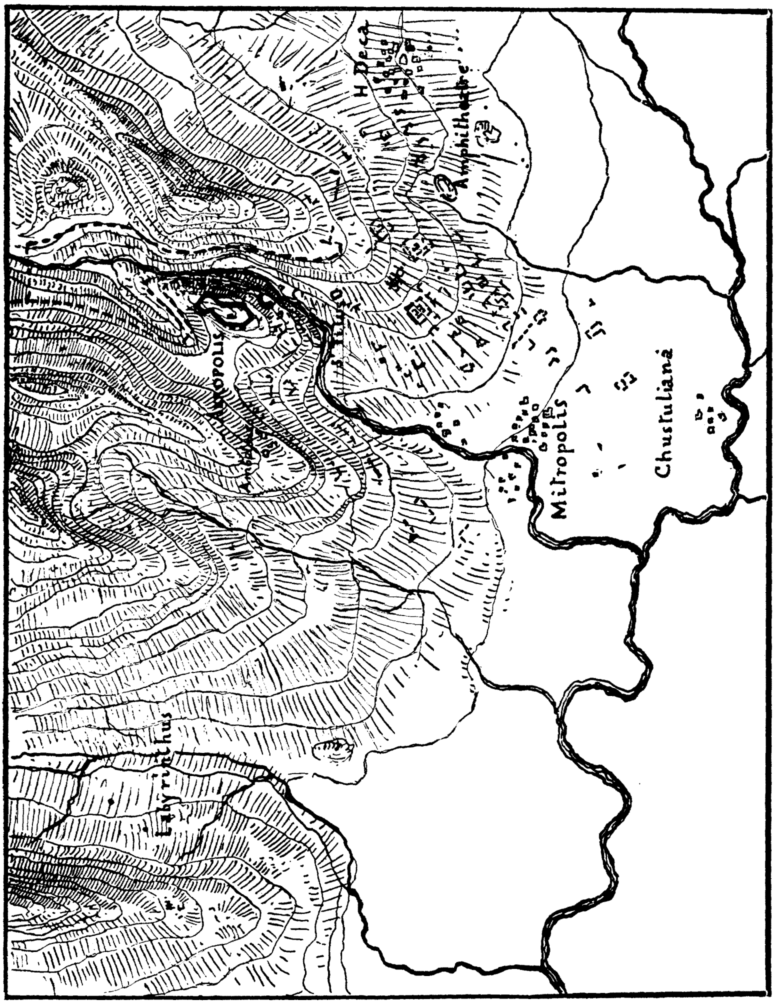

FIGURE 1.—GENERAL PLAN OF GORTYNA.

the Mycenaean centre in this place on the banks of the Lethaeus could have been in any way the prelude to the important position occupied by Gortyna in epochs nearer to us, when social order, industry, and art shone brightly in her as in a powerful metropolis.

The Mycenaean goal having thus completely escaped me, but wishing nevertheless to meet the wishes of Professor Halbherr, who had requested me to study that locality, I thought of directing my researches to the clearing up of the topography of the acropolis and its surroundings, and to the examination of a sufficiently remarkable number of interesting remains which relate to epochs much more recent, but still ancient enough to be worth collecting before the violent action of the elements and still more that of man, combine to hasten their utter destruction.

The vast plain of Massarà, extending seawards from the slopes of the hills flanking it on the north, is completely scattered over with monumental memorials of the past. It is an area in which one comes continually upon the ruins of colonnades, public buildings, thermae, etc., giving some idea of the vastness and riches of this seat of the Roman Proconsul. But if the remains still visible are many, — still more apparent are the signs of the increasing destruction to which they are subjected! The renewed cultivation by the Greek peasants of the valley is by degrees reclaiming this plain so long abandoned. But it is at the expense of the ancient monuments of Gortyna; since the most important ruins are in course of destruction to furnish material to build miserable settlers' cabins, dry walls to divide the various fields as limitations of property, etc. Whoever, therefore, would expect to find in the Gortynian plain all the buildings given by Tournefort in his *Journey in the Levant* (Fig. 2), would greatly err, since the destruction during the course of a century has progressed immensely; and if the hopes of a systematic excavator can still be many, the fruits to be gathered from the monuments above ground are so much the fewer.

From the vastness of the field, I considered the problem of the general topography of Gortyna insoluble. I confined myself therefore within more modest limits. Comparing the state in which the ruins of the Acropolis were found, with their condition a score of years ago or so when seen by Pashley, Spratt, and others, I understood it would not be altogether lost labor to gather as much as could be still ascertained about the Acropolis itself; only regretting that the impossibility of excavating and the want of geodetic means obliged me to renounce the attempt to draw up a complete scientific plan, and limit myself to sketches, and simple statements of facts, not illustrated by deeper researches. Thus they who will have the good fortune to succeed me in that field will perhaps have to find fault with me for much inexactness. But I was anxious to begin the important topographical study of the great Cretan cities, and to clear the way for those who will be able to proceed with it under more favorable circumstances. I hope, therefore, my successors will bear in mind the unfavorable circumstances and excuse me for whatever involuntary mistakes I may have made.

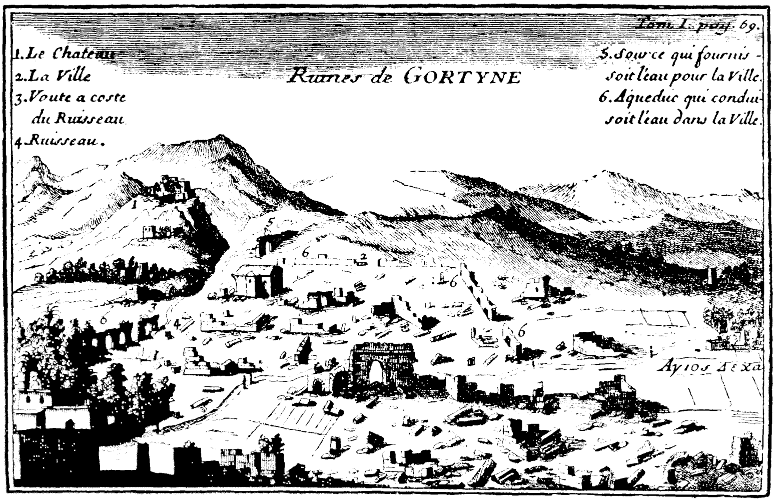
Tom. I. pag. 69.
Ruines de GORTYNE
1. Le Chateau
2. La Ville
3. Voute a coste du Ruisseau
4. Ruisseau.
5. Source qui fournis-soit l'eau pour la Ville.
6. Aqueduc qui condui-soit l'eau dans la Ville.
Αγιος Δεκα

FIGURE 2.—TOURNEFORT'S VIEW OF GORTYNA AND ACROPOLIS.

The Acropolis and the Large Theatre

It is known to the students of Cretan antiquities that the city of Gortyna, which was in its most flourishing period during the Roman dominion in the island, spread widely over the plain now occupied by the four villages of H. Deca, Mitropolis, Choustouliana, and Ambeluso, between the torrent now called Mitropolipotamos, or Mitropolianos, and the extreme southern declivities of the mountains which form the watershed of Crete, and close on the north the plain of Messarà. From these lower slopes, somewhat projecting toward the plain, detaches itself a counterfort or spur, which dominates the plain at an equal distance between H. Deca and Mitropolis.

This hill of St. John, as it is now called, was the ancient acropolis of Gortyna (Fig. 3). As appears from the plan, this hill, composed of a polygonal compact mass of chalk-schist, has the form nearly of a cone with the point turned toward the mountain. The point of the cone is due to the confluence of two torrents. One of these flows from the centre of the island, with a considerable quantity of perennial water, descending from its upper valley through a deep gorge, as savage as are all the mountain clefts of Crete, and makes a course for itself through the plain, traversing the space where stand the ruins of Gortyna. It is to this narrow stream, bearing its silver thread of waters, sparkling between the oleanders even during the greatest summer heats, that belongs of right the glorious name of Lethaeus. The Acropolis is then deeply cut into, at its northeast base, by the deep furrow opened in preceding geological epochs by the above watercourse; and on this side the declivity is very steep from the summit down, leaving almost no space for human habitation; also the northwest face is, in part, a sheer precipice toward a rivulet (quite dry during the hot season), which meets the course of the Lethaeus at the north point of the Acropolis, descending by other terraced slopes from the tongue of rock which connects the Acropolis

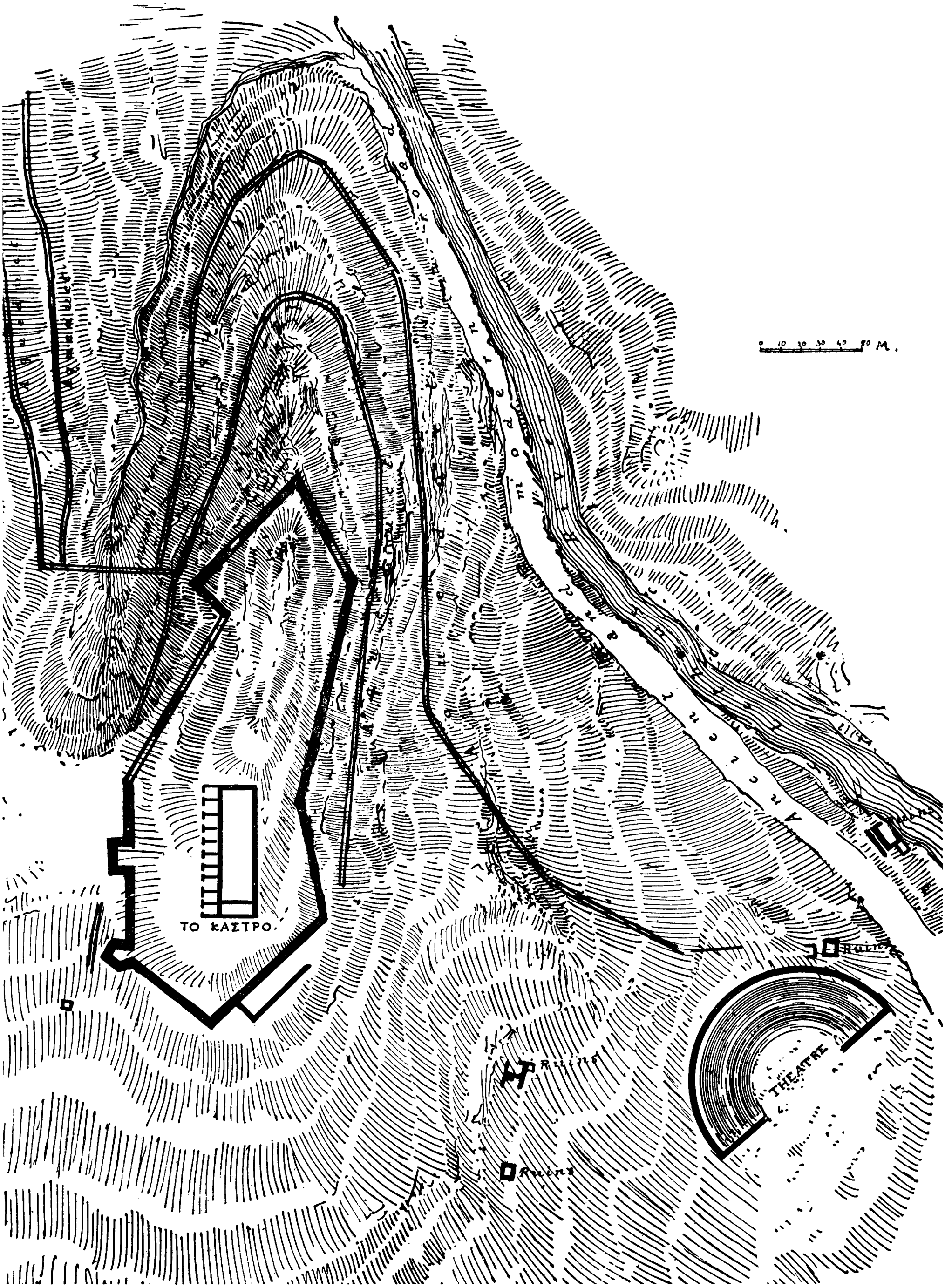

Figure 3. — The Acropolis of Gortyna: General Plan.

with the chain of calcareous hills rising above it toward the northwest. If the northeast and northwest flanks of the Acropolis are scarcely accessible, in the other directions, however, the hill sinks gradually toward the plain, especially on the south and southwestern slopes, and leaves a space sufficiently ample for habitation. The summit of the Acropolis lifts its steep form, according to the axis of the hill, from north to southwest, in a height of 150 m. and a medium breadth of 50 m. From this description it results that the upper part of the hill, about 80 m. above the plain of Messarà, would form a natural fortress, easily defensible even from the western side, where the hill joins the rest of the mountain, since it rises not less than 40 m. over this tongue of earth.

No spring of water is at present to be· found in these hills, nor in ancient times perhaps were they better provided by nature; certainly, the numerous houses whose traces still remain required for the needs of their inhabitants those great aqueducts which are still admired, and will form in part the subject of this our short description of the Acropolis.

At present the Acropolis, save at the points where the precipice descends sheer down to the valley, is covered over with ancient ruins and modern walls built with ancient material by the peasants of the neighboring villages, either to support the scanty soil, or for marking boundaries, or, still better, to clear as well as possible the ground recently restored to the cultivation of grain. And where the yellow ears of wheat do not raise their heads among the ruins, the scarlet poppy, the *cardus spinosus*, and other plants bear witness to the fertility of that thin soil. They are, however, serious obstacles to the exact restoration of the ancient remains.

The long existence of Gortyna and the succession of buildings even on the Acropolis were the reason why the more ancient disappeared, either destroyed or built over by the newer, or deeply buried under posterior foundations, or by the accumulation of demolished material throughout so many centuries. To all this, in the case of the Gortynian Acropolis, is to be added the steep incline of nearly all the flanks of the hill, which hastened the splitting of those buildings built against them. And this is the cause why no edifices of the Mycenaean age are to be identified at Gortyna, but only such as date from the Roman or Byzantine period; while on the acropoleis of Goulas, Axos, Praesos, and other places in the island, ruins of the older period remain visible. Indirect proofs, however, are not wanting at Gortyna, as will be seen further on, of the existence of monumental buildings of the Hellenic age.

Here, however, as at Cnossos, Lyttos, Chersonesus, etc., what impresses the mind of the student are the works of the Roman conquerors; and they are works of peace and public utility, which constrain him to consider the Roman domination in the island as an epoch of peace and prosperity, if not the only one, certainly amongst the few which this poor island enjoyed. For any one going from H. Deca toward the hill of the Acropolis, the first group of ruins which presents itself is that of the Roman Theatre, situated on the sides of the hill, at the southeast, a few yards above the Lethaeus.

From the descriptions in Spratt's *Travels in Crete*,[1] this building, now reduced to utter ruin, was examined early in the present century by order of Veli Pasha, and on that occasion was found a statue representing the Bull of Gortyna. The discovery of this bull, which refers to the Rape of Europa legend, is remembered by all the old peasants of the district; and when I went to Bobia, in the declivities of the southern chain of Messarà, there was shown to me a plinth in marble, with roughened surface, and upon this plinth the still projecting four hoofs of an ox; by the unanimous agreement of these peasants, this marble fragment also came from Veli Pasha's excavation in the theatre. The state of the theatre when Spratt saw it must have scarcely differed from that in which I saw it; he gives measurements that approximate mine, but his notices are very incomplete, and are quite insufficient to give any idea of the edifice.

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[1] II, p. 29.

The theatre must have been in a very different condition when seen by the Venetian traveller Onorio Belli, who leaves a memorial of it in his valuable sketches which have been partly published by Mr. Falkener.

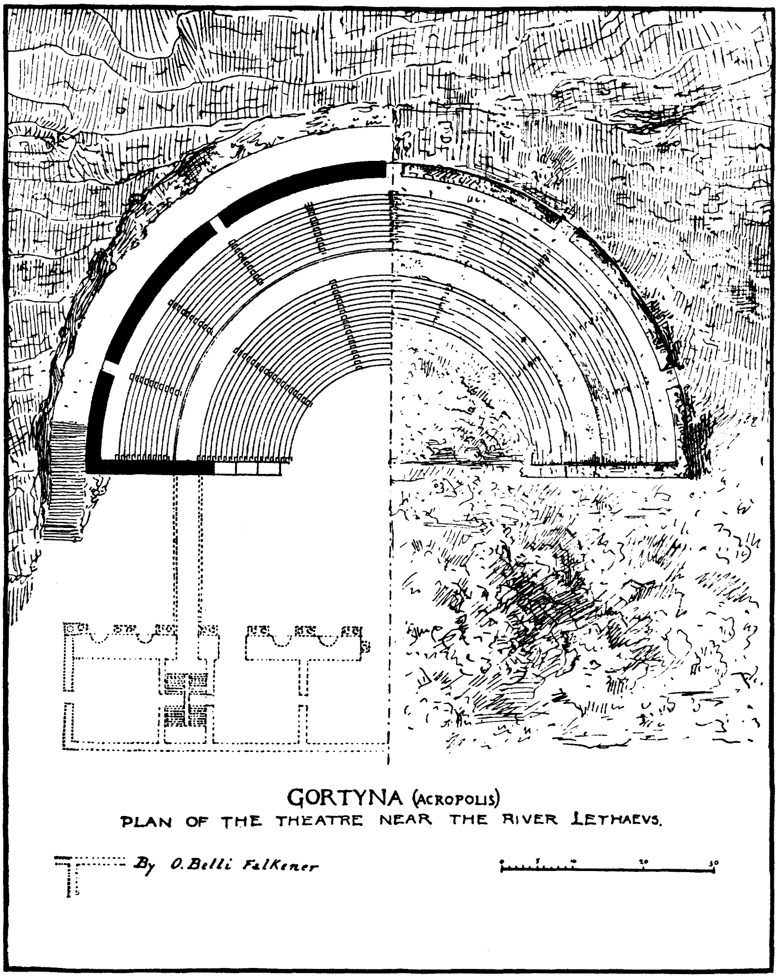

Figure 4. — Theatre at Gortyna, near the Lethaeus.
The scale is in metres.

In the plan here subjoined, prepared according to my measures and observations (Fig. 4), the data given by Belli are also taken into account; by means of dotted lines are indicated the monumental stage and the lateral limits of the orchestra. The ranges of seats, and the stairs of the *cavea*, now in great part vanished, must have still been visible to the Venetian traveller, since they partly correspond with what I have been able to verify. The plan given by me and the section added thereto (Fig. 5) make it unnecessary for me to offer an extended description of these remains.

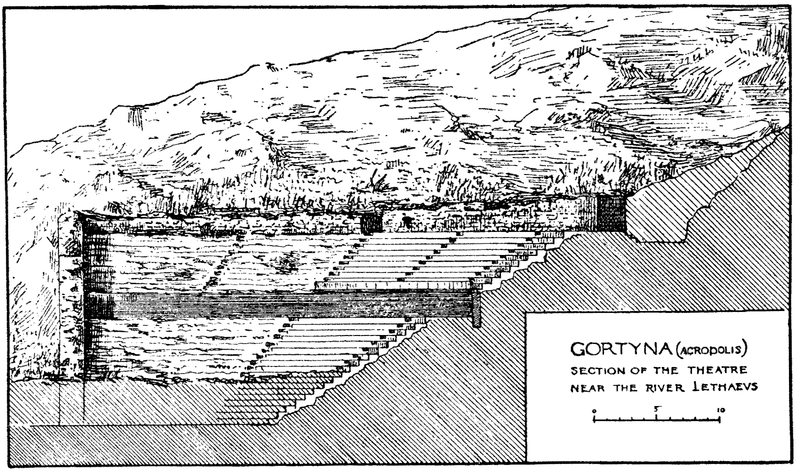

FIGURE 5. — THEATRE NEAR THE LETHAEUS AT GORTYNA: SECTION.

The greater part of the *cavea* rests upon the flanks of the hills, turned toward the south, so that the spectators had for a background the broad valley of Gortyna, dropping gradually between the mountains toward the azure gulf of Messarà; the stage must have been wholly constructed. The *cavea* was supported in its extreme wings by stout walls, against which leant the ascending ranges of the seats. These great walls, like all the works of the Roman age, were built with an internal kernel of *emplecton*, composed of fragments of stone bound together with very hard mortar, and were faced outside with brickwork, courses of which crossed the mass of the *emplecton* to render it more regular and compact. This procedure we find in all the works of Roman builders; not only at Gortyna and throughout Crete, but in all places where the traces of their mighty works are to be found.

The dimensions of the theatre as measured by me, or such as I infer they must have been, on comparing Belli's data, are as follows:

Perimeter of the *cavea*	140.00 m.
Section visible of space for spectators . .	21.60 "
Complete section " " . .	29.00 "
Section of upper zone	7.50 "
Section of lower zone	13.00 "
Breadth of upper gallery	3.00 "
Breadth of lower gallery	4.20 "
Probable breadth of orchestra	28.00 "

In the wall surrounding and supporting the *cavea*, as can be seen from the plan and from the section (Figs. 4 and 5), in a thickness of 2.20 m., are the doors which gave access to the theatre from the hill, and probably from a terrace cut in the rock of the Acropolis. This terrace went all round the highest part of the theatre, for the purpose of preventing it from being flooded by the rain-water flowing down the hill at this point, which is very precipitous, though it has traces of buildings scattered over it.

How high this outer wall of the *cavea* was, it is now impossible to tell; it is now quite demolished, but the traces of it are still visible, as also the passages from the outside to the interior of the theatre; besides the middle entrance, 1.85 m. wide, there were two others, one on each side, 1.50 m. wide.

The *cavea* seems to have been divided into two unequal parts by a broad *ambulacrum*, or passage, situated in such a way that the upper zone was the narrowest. This *ambulacrum* is 3.60 m. broad; the wall which supports the upper zone is of bricks faced with *poros*-stone. Another *ambulacrum*, or gallery, 2 m. wide, went round the summit of the *cavea* and gave access to the various staircases.

The nature of the rock, in thin, not very compact strata, did not allow of its being cut into rows of seats, as was the case in so many theatres of antiquity, such as at Syracuse; thus here the various graduated ranges of seats must have been constructed of masonry. The action of the elements and the devastating hand of man have contributed to overturn everything; the stone seats have nearly disappeared altogether, and the material went to fill up the orchestra and bury the stage. From the traces remaining we may conjecture, however, that the rows of steps were eleven in the upper zone and eighteen in the lower, and were 40 cm. wide to about 60 cm. deep. These are about the same dimensions that we find in all the Roman theatres of the best epoch, whether in the great capitals or in provincial centres. I quote, for example, the theatre of Atteia (Ashaga-Beikoi), described by Fabricius, in the district of Pergamon, where the steps are 42 cm. in breadth and 66 cm. in depth. It is impossible to say what was the form of the seats; it is certain, however, they were made of bricks covered with slabs of *poros*-stone. The *cavea* is now altogether in ruins, nor is there any hope that excavations will throw light upon its character. We may cherish more hope as regards the stage; a systematic excavation might reveal whether the not very frequent form of the stage (placed so far from the *cavea*), as transmitted to us in Belli's plan, can be really verified.

THE THEATRE NEAR THE PYTHION

The same point has still to be cleared up in the case of another theatre at Gortyna. It is that situated at the back of the Pythion, at the "Vigles," where Professor Halbherr made his interesting excavations in 1886–87. It returned to the light of day at the time of my visit to H. Deca; but it also bears witness to the progress of destruction since Onorio Belli's visit, and unfortunately the devastation is by no means arrested. No arguments and advice on my part could avail to dissuade the ignorant peasants from their purpose of stripping the edifice — revealed to them by chance under a heap of *detritus* — of the fine blocks of *poros*-stone which still formed its arches and adorned its walls. In face of this destruction it seemed to me necessary to suspend for a short time my diligent examination of the Acropolis to study the facts here coming to light but fated to vanish under the cruel hand of the peasant; and therefore I ask forgiveness if I interrupt for a moment the description of the Acropolis and lead my reader down into the plain, near the temple of the Pythian Apollo, in the locality of the "Vigles," where were discovered real treasures for science, and where so many others await future archaeologists.

This place, called the "Vigles," owes its name to the fact that there the great mass of ruins, comprising the Pythion, the theatre, and other edifices, constitutes an actual hill, rising from 7 to 8 m. above the surrounding plain, which it commands after the fashion of a watch-tower (*βίγλα*). The name is a Byzantine corruption of the Latin *Vigilia*, or station for guards; and there was doubtless such a station kept here in the times when the Gortynian plain was exposed to the incursions of the Saracen and Arab corsairs, of whom we shall frequently have to make mention during the course of the present article.

To make briefer my description of this smaller theatre, which was probably connected with the worship of Apollo, I here add the plan (Fig. 6) and the section (Fig. 7), according to my measurements, completed according to the restoration given by Belli and edited by Falkener.

Captain Spratt was not able to recognize this theatre near the Pythion because of the still greater masses of ruins which, at the time of his visit, encumbered even more than now the plain of Gortyna. He only mentions it as the ruins of an indeterminate circular edifice, and marks it in his little plan, *Brick-ruin*.[1]

What was still visible at the time of my exploration was nearly the whole *cavea* except the two wings and the lower ranges of seats; the orchestra, the stage, and the buildings behind it were buried beneath a field of corn which grew in marvellous fertility on a soil all scattered over with broken bricks and stones. At the same time, by studying the visible remains along with those coming to light while the peasants were carrying off fine pieces of *poros*-stone, to employ them for new purposes, one may form an idea of the theatre. It is, therefore, desirable that a regular excavation should be made, for the thorough examination of the stage, in order to find proofs of the singular arrangements given by Belli in his plan.

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[1] Spratt, *op. cit.*, vol. II, p. 28.

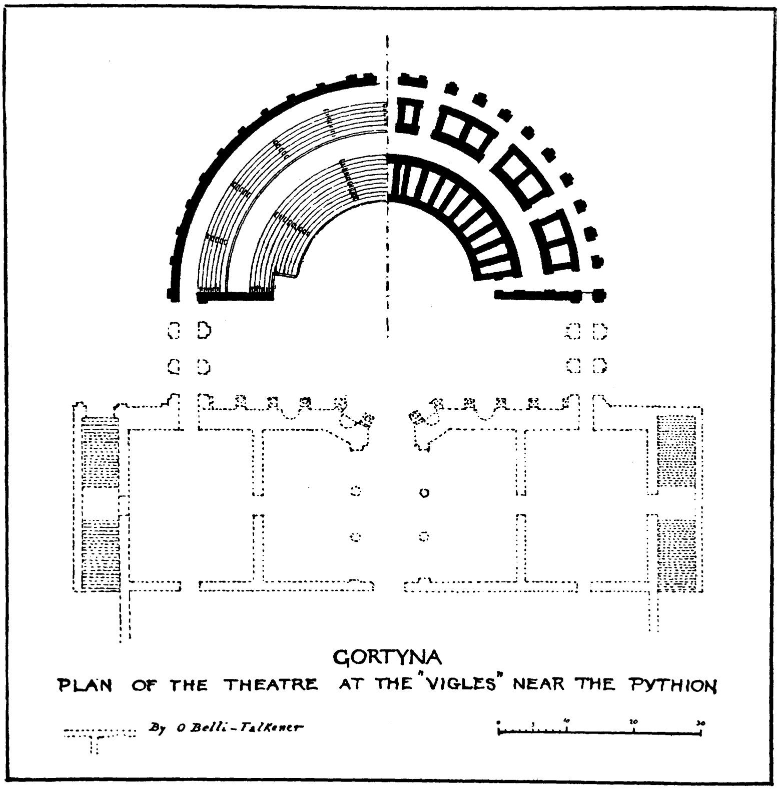


Figure 6.—Theatre near the Pythion at Gortyna: Ground Plan. Scale in metres.

I ought to observe that, if even there may have once been a Greek theatre on this spot, contemporaneous with the constructions of the Pythion, what we have now here is entirely a Roman edifice, as we may infer both from its general plan and from technical and architectural peculiarities. Although partly hidden by the soil and destroyed, the essential elements were still enough preserved to enable me to gather data for the plan and section.

Differing from the Acropolis theatre, which for the greater part was excavated in the rock, the "Vigles" theatre was completely built of masonry, as also the *cavea*, which has two zones of seats and the stage now entirely buried.

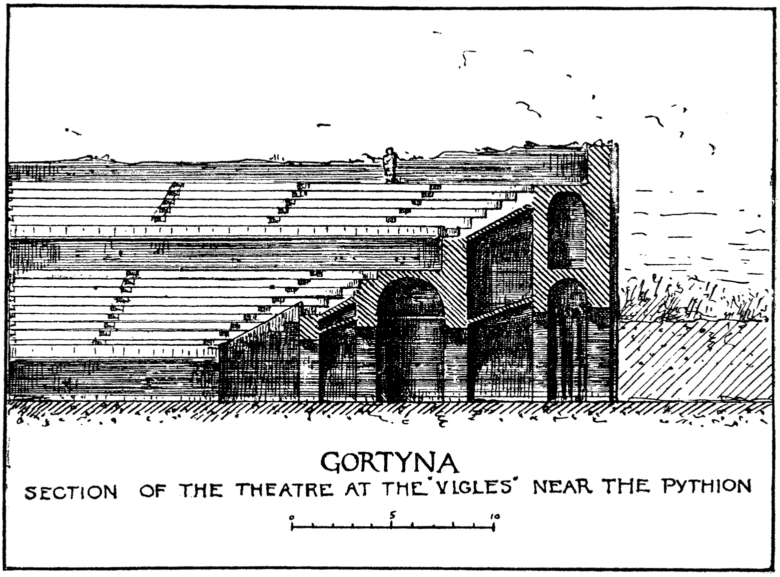


Figure 7. — Theatre near the Pythion at Gortyna: Section.

The perimeter of the *cavea* is 102.00 m., and is marked by a massive wall 1.30 m. in thickness. Into this, as in other Roman theatres, open both the *fauces*, which give access to the orchestra, and the arcades which give light to the lower corridors, to the *ambulacra*, and to the *cavea*. Almost the whole of this powerful wall was, at a later time, despoiled of its exterior facing; but in the places where this is partly preserved, one can plainly see, as in the other Roman constructions at

Gortyna, that it was composed of an internal nucleus of *emplecton*, as already described, bound from space to space by a double course of large bricks that served to give to the wall the necessary consistence and strength. The external face of the wall, on the other hand, was covered by a band of large and handsome bricks disposed in rib fashion or pattern, so as to present a smooth surface, solid and elegant at the same time. To give the perimetral wall a still greater resistance to the weight of the internal building, it was strengthened by thick buttresses disposed at a medium distance of about 3 m. apart, and projecting about 0.70 m. Between these buttresses opened the *fauces* and the arcades.

The lower *fauces*, covered with vaulting from which the outer dressing in slabs of *poros*-stone had been removed, were buried up to the top; but from the measurement of their width, 2.40 m., we may suppose they were 4.70 m. in height. They were ten in number, on each wing of the theatre. In the centre was an entrance, which had from its position a greater importance; the *ambulacrum*, to which the central entrance led, —from what I could verify by crawling on all fours between the ground and the ceiling,—had its lateral walls dressed with slabs of stone alternated with the screens of brick.

As is plainly seen in the section, all round the *summa cavea*, between the perimetral wall and the highest range of seats, went an *ambulacrum* 2.50 m. broad, which must have led by the various staircases to the various tiers of seats. Below this *ambulacrum* were the vaulted corridors, 6 and 4 m. high and 1.80 m. wide, destined to facilitate circulation in the theatre, and to lighten the mass of construction which supported the highest *ambulacrum*. The tiers of seats were set upon vaulted spaces, between pilasters; these spaces were disposed in rays, and formed the skeleton of the *cavea*.

Between the *summa cavea* and the lower ran an *ambulacrum* 3 m. broad, also supported by a vaulted corridor, which I saw, still in excellent preservation. The difference in height between the *summa cavea* and the lower is 1.80 m.; I could not ascertain with any certainty where was the passage between the one and the other zone of the *cavea;* by comparing it with other Roman theatres, and especially those of Asia Minor, we might be able to imagine a pair of staircases, not very wide, leaning against the wall of the gallery and following its curve. The covered corridor, which went round under this *ambulacrum*, and of which I was able to make exact measurements, was, as I said, well preserved in its various parts. It was the very beautiful blocks of *poros*-stone forming the vaulted ceiling which attracted the greed of some peasants of the place intent on building their farmhouses. The walls of the *ambulacrum* appeared to be dressed with bands of bricks alternating with bands of stone; entirely in stone, however, was the fine barrel-vaulted ceiling, which had an elevation of 2 m. and a thickness at the keystone of 1 m.

The stones of this ceiling, which fit accurately into each other, bore some letters and signs which served probably either for the stonecutters or the masons — the letters were these : M E. We frequently meet also with these other signs : Δ Ͳ.

Not less well preserved than this passage or corridor was the other, which was situated at the right extremity of the *cavea* and led from the grand gallery to the orchestra. At its opening into the central corridor it was 2.05 m. in width and 3.80 m. in height, and then gradually narrowed toward the orchestra, following the incline of the steps of the *cavea inferior*. This passage also had walls of brick with bands of stone; strengthened (as appears in the plan) from space to space by pilasters in stone.

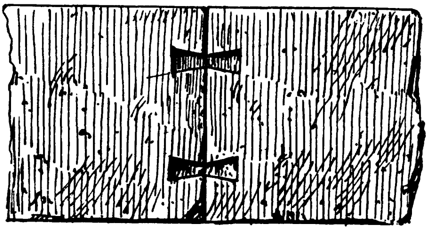


Figure 8.—Bronze Clamps from a Wall near the Pythion.

The joining and binding of one block with the other was effected, not only by great precision of labor, but by means of handsome bronze clamps and wings 15 cm. long and 5 cm. wide (Fig. 8).

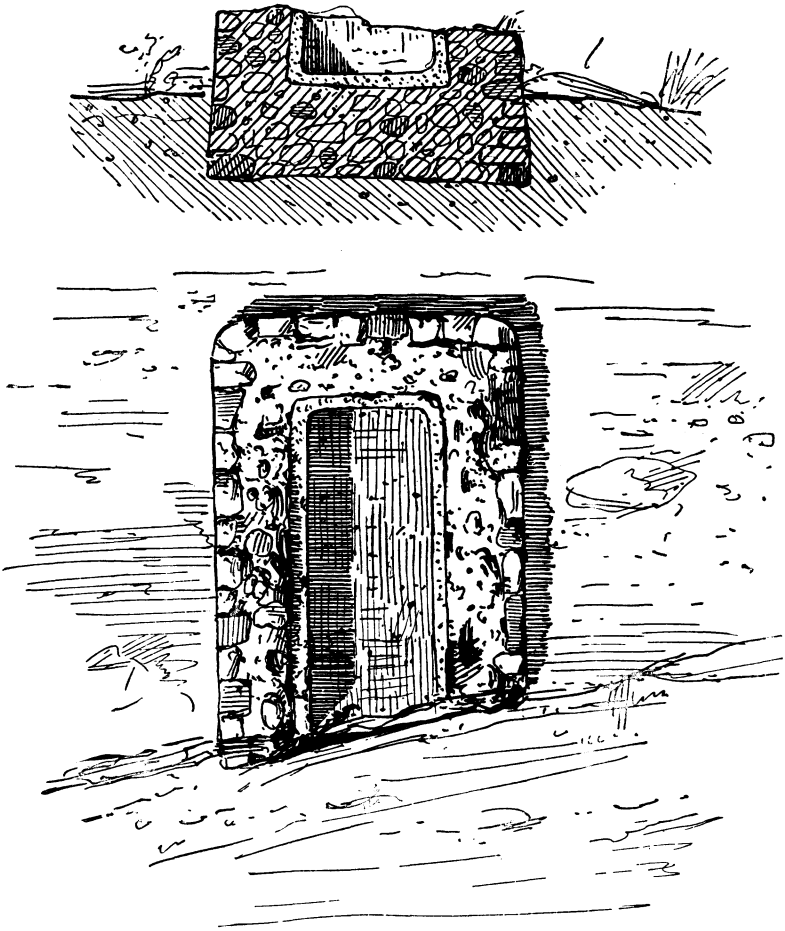
These qualities, which indicate a true perfection of labor, would, but for the sad vicissitudes endured by this edifice, have handed it down to us in a marvellous state of preservation, such as I witnessed in those portions whose fate it was to disappear under rude hands before my eyes.

The orchestra and the stage, as I have said, were completely buried; nor could I ascertain whether the dispositions of the wings and the stage attributed by Belli to this theatre really existed. For the rest, from the variation that I could observe between Belli's plan and my own, it seems that the Venetian traveller was not always exact, or rather had not always the facilities for making complete and definitive observations. I think, therefore, that a regular excavation in the stage and the portion behind it would make us acquainted with the traces of the building which Belli calls the "Portico." This building as well as the theatre of the Acropolis, as described by him, and the two theatres of Hierapytna remind us strikingly of the general scheme of the Thersilion of Megalopolis (Arcadia), which has been illustrated by Gardner, Dörpfeld, and others.

THE AQUEDUCT

But now it is time to return to the Acropolis. Close to its theatre already described we see the remains of a construction, which was destined to serve as a reservoir for water, probably for the use of the theatre, where fountains and jets of water would certainly not be wanting, according to Roman custom, to refresh the spectator and to cool the plants and flowers laid out for his delectation.

This reservoir of water, which, however, is partly destroyed by the giving way of the ground, was, as appears from Fig. 10, a small rectangular basin about 4 m. long by 3.80 m. broad. The available internal space being 1.50 m. in width, the walls presented a thickness of 1.10 m., and were composed (as we have already seen in the walls of the theatres) of the extremely compact kernel of *emplecton*, protected by an external face of split stones, of moderate dimensions, and accurately disposed in courses; the interior was covered with a strong impermeable stratum formed of mortar with pounded pottery strongly compressed. This system, which gave to the reservoir the highest degree of impermeability possible, we find employed not only on the Acropolis of Gortyna for cisterns and aqueducts, but in all Cretan baths or aqueducts, as observed by Halbherr and by me at Lebena, and especially in the mag-



Figures 9, 10. — Reservoirs for Water, near the Theatre on the Acropolis.

nificent works connected with the aqueduct of Chersonesus also examined by me in the course of an exploration in Pediada.

In the reservoir near the theatre were still visible the traces of a vaulted ceiling, built of bricks and about a metre thick. This roof was to preserve the water from evaporation and prevent it from feeling the action of the strong solar rays. Beside the ruin of this reservoir there were others, less distinguishable; they all stood in some relation to the theatre. These reservoirs were fed by an aqueduct of great dimensions, and since with these hydraulic constructions are connected all, or nearly all, the buildings which we still find on the slopes of the Acropolis, I think this the proper place in which to sum up my remarks about this important aqueduct. It is but imperfectly described in Spratt's work, and it bears comparison with the best Roman aqueducts of the East.[1]

For a city so large and extensive as was Gortyna in Roman times, an immense volume of water would certainly be necessary, when we consider the extreme heat in the plain and the hygienic and refined habits of the Roman or Romanized population.

If the Greek inhabitants could content themselves with the scanty springs issuing from the neighboring mountain, or with the waters of the Lethaeus, it was not so with the Romans, who required an abundant supply of water. This was to be found only in the centre of the island, — in the huge ravines of that great collector of humidity, the Cretan giant, Mount Ida. It is known that this calcareous mass is pierced in every direction with enormous clefts and cracks, ploughing the surface all over. Through these disappear the melted snow and rains, and filter down, to reappear at a lower level in the hills and at the foot of the mountain in purest and most abundant springs of water, which the ancients consecrated to the serene divinities of the streams and woods.

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[1] Those of Constantinople; Cod. Theod. vi. 4, 30; Roudelet, *Addit. aux Comment. de Frontin*, p. 42, pl. xix; Von Hammer, *Constantinopel u. Bosphorus*, p. 507, 7.

To one of these fountains, situated on the southern slopes of Ida, the Romans had recourse to supply Gortyna and the plain of Messarà with water, in obedience to the Vitruvian precept of drawing water solely from the mountains. For the purpose of seeing how the plans were made for turning the water into the aqueduct, I betook myself to this same place, which is situated at about three hours from Gortyna. If my reader will permit me, I will lead him also thither for a short time, ascending out of the sultry plain to rest awhile in the cool and fragrant oasis of Zarò (Fig. 11).

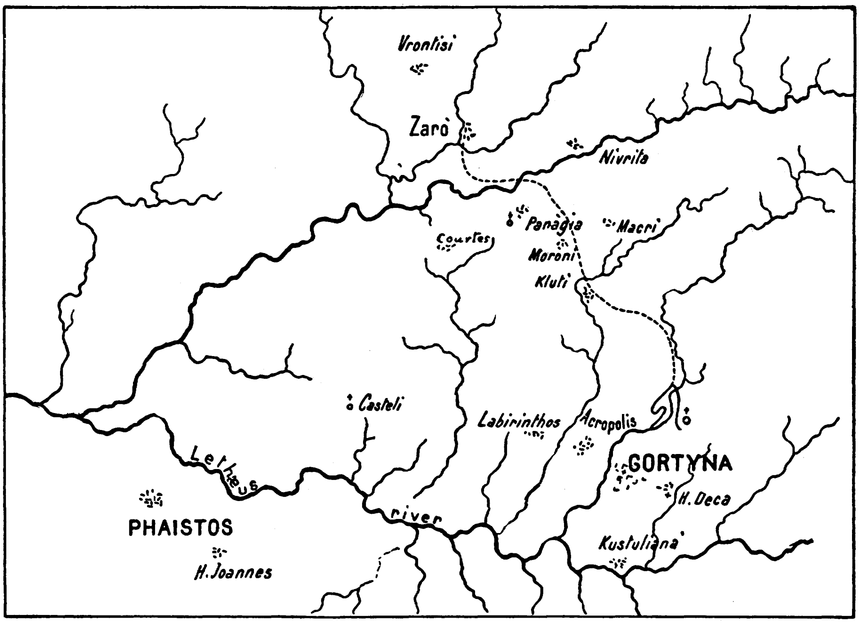

Figure 11. — Probable Course of the Aqueduct of Gortyna.

From the southeast declivities of the higher range of Ida (now called Nida by the Cretans) there spreads a copious ramification of valleys, all very steep and rich in springs, which, uniting together a little above the village of Courtes (a spot now well-known in Cretan archaeology), form a pretty abundant stream, which flows by Potamitis and Vori and falls not far from Dibaki into the gravelly and muddy malarious marshes of the Geropotamos. The valley, which more than the others winds into the heart of the chain, and cuts it most deeply, even to reaching the watershed of the island, is that which has for its chief town the smiling village of Zarò (*Ζαρό*), composed of two hundred and fifty Christian houses and thirty Turkish, in a pleasant and healthy situation, being dominated by the mountain peaks and girdled with woods of pine and fir; while the narrow level spaces and the first inclines are smiling with cultivated fields and orchards. The salubrity of the place and also its relative wealth are due to the very remarkable abundance of water. It was for just this reason that I went in search of the sources of the Gortynian aqueduct to Zarò, attracted thither by indications given me by the peasants as to a spring near that village called *ἡ μάνα τοῦ νεροῦ*, 'the fount of water.' Such indications had not deceived me, since at thirty minutes to the north of the village, at a little distance from the gorge opening into the valley of Vrontisi, I found the locality called *ἡ στέρνα*, where there is in fact the ancient cistern, still well preserved, and the spring full and abundant as ever. As may be seen from the plan (Fig. 11), the distance from Zarò to Gortyna is considerable, and it is a proof of the wealth and influence of the city, which could supply itself from such a distance with an unfailing supply of purest water.

At the mouth of the gorge, called from the cistern *τὸ φαράγγι τῆς στέρνας*, near the torrent which escapes from it, and just at the back of the steep cliff, is, in an excellent state of preservation, the edifice destined to capture and collect the water,—the *caput aquae*,—which I represent here in plan and section (Figs. 12, 13 *a*, and 13 *b*). It was a rectangular construction 37 m. long and about 5 wide; the height of the *piscina* (pool), still visible, was 4 m. It was attached, or built into the mountain by a spur of masonry, 0.70 m. broad, constructed to strengthen the building and protect it against eventual floods of the torrent. The edifice, solidly built, had walls 1.40 m. in thickness, in solid *emplecton*,[1] laid in strata by means of double courses of brick; this brick dressing had in great part disappeared. It is a noticeable fact that the northern wall of the edifice rises 2.30 m. higher than the south wall, which arrangement I consider to have been made to protect the roof of the cistern from the stones which often fell from the rocks above. And the effects of this natural bombardment were in several places visible, this kind of parapet being here and there dismantled by the fall of calcareous blocks, which rolled down with every change of weather. The roof of the *caput aquae*, however, formed of strong concrete, had resisted so effectually that it was not possible for me to penetrate the interior, the channel being altogether obstructed by the trunk of a flourishing

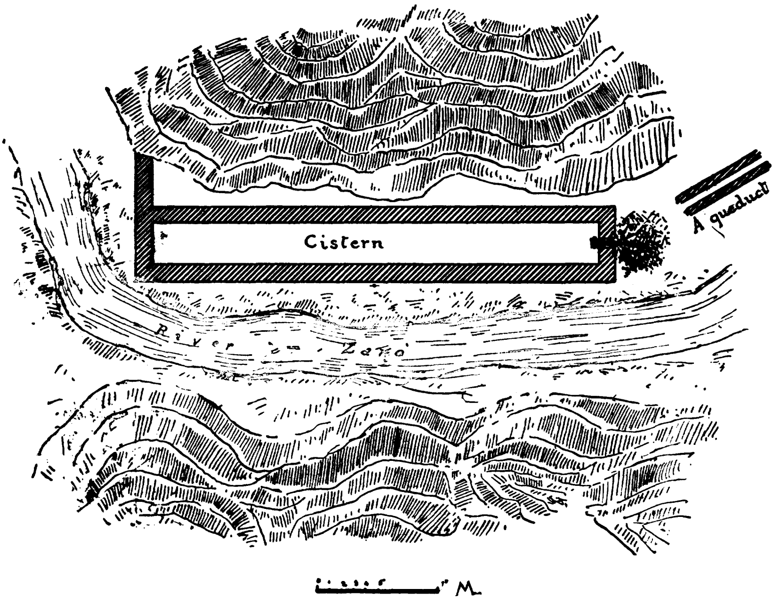

FIGURE 12.—THE CAPUT AQUAE: GROUND PLAN.

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[1] It is the construction we shall meet with so frequently in the Cretan monuments—often met with in Rome and the Roman provinces; for example, in the aqueduct of Merida in Spain. De Laborde, *Voy. Pitt. en Espagne*, p. 112, and pls. cl–clii.

green carob tree. The form and position of this channel, however, were quite well defined, as it was placed in the high portion of the cistern in such a way as to serve well as a filter, collecting the waters already cleared and freed from the earth they contained in suspension. In the place where the Romans had built this vast *caput aquae* there now only flows a thin silver thread of purest water at the rate of two or three litres a second; but at a few hundred metres more to the

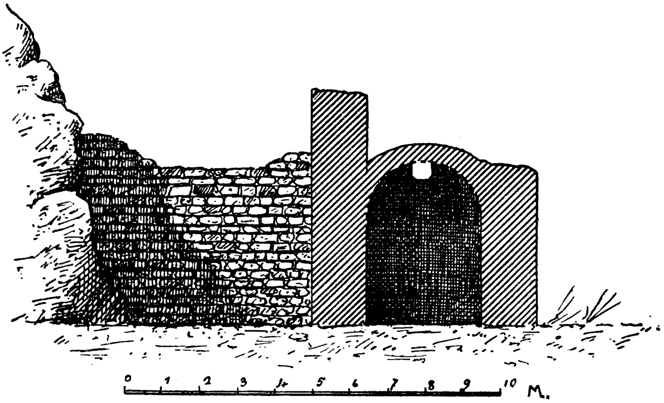

Figure 13 *a*. — The Caput Aquae: Section.

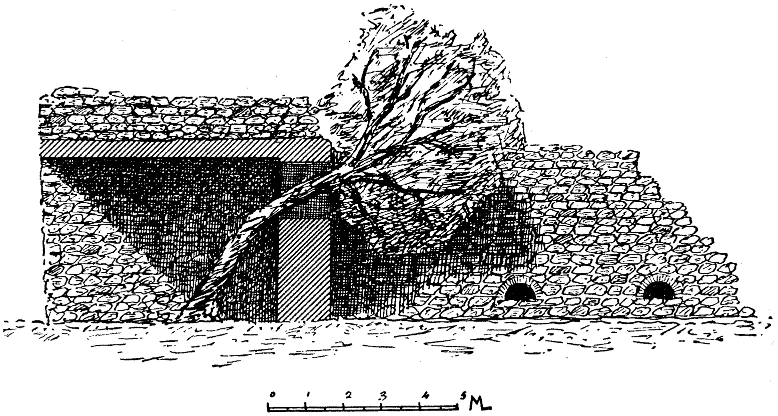

Figure 13 *b*. — The Caput Aquae: Section.

east of this point, we find, in the midst of an uncertain and watery soil, robed with an exuberance of flowery vegetation, the ancient fountain, which escaping from the bondage imposed upon it by man's hand, bubbles forth limpid and serene, nourishing with its cool and azure waters the privets and water-lilies that encircle it in a gay garland. It is in the presence of such springs, bursting forth beneficent and abundant in a hot and thirsty land, inhabited by a lively and imaginative people, that we can fully comprehend the power of the poetry of nature that fills the life of the Hellenic race.

Even now the fountain which the peasants distinguish by the name of *Λιμιόνας*, from the surrounding less important springs, issues from the mountain limpid and quite free from suspended material. She leaves the calcareous grit behind during her subterranean course, and springs to light well clarified, with scarcely a trace of deposits of carbonates either in the aqueduct or in the various reservoirs or "*castelli*" through which lies her course.

We have said that the mouth of the *caput aquae* continually fed the aqueduct from the superficies of the volume of water, and not from its base; but alas! the first segment of the aqueduct immediately contiguous to the *caput aquae* had been demolished by the peasants. A few metres, however, from that point we find the aqueduct again clinging to the cliff and almost completely preserved, as given here in Fig. 14. An extent 100 m. in length and 4.70 in height still presented itself, constructed in solid masonry and *emplecton*, dressed with courses of split stones. In this very powerful wall of more than 2 m. in thickness ran the water-channel (the aqueduct proper), 0.80 cm. deep and 0.50 cm. wide to 35 cm. at bottom. It was entirely dressed with a twofold layer of mortar and pounded shells, and must have been closed over with a low vault which, according to the rules of Pliny and Frontinus, protected the water from the impurities of the rain and the solar rays. To be sure, in this portion of the aqueduct the protecting roof was wanting, but the traces of it were distinctly visible. The extreme care taken by the Romans to preserve the purity of the aqueducts — especially to guard against injurious leakages into it — is revealed here by a whole system of drainage represented in Figs. 14 and 15, consisting in small arched channels 0.45 cm. high and 0.60 cm. wide, which at distances of from 20 to 25 m. from each other crossed with a slight incline the line of the aqueduct. These little channels served to drain off the rain and other waters of the cliff against which the aqueduct was built, and which in the course of time would have damaged the masonry of the aqueduct.

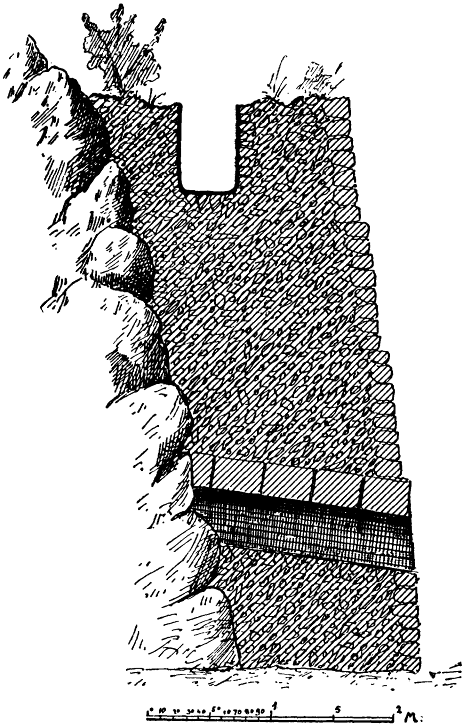

FIGURE 14.—AQUEDUCT BETWEEN ZARÒ AND GORTYNA: WATER CHANNEL.

The aqueduct, beginning more than thirty-five kilometres from Gortyna, started from this smiling scene of its origin in a southeasterly direction, crossed the valley of Zarò, and touched those of Panagia, Moroni, and Pluti.

For various reasons depending on the state of the island and the restricted time allowed me, I was not able to follow the whole course of the aqueduct, which will be the object of future researches. We shall meet it again, however, at a few kilometres' distance from the upper entrance of the gloomy and frightful gorge which opens into the Gortynian plain.

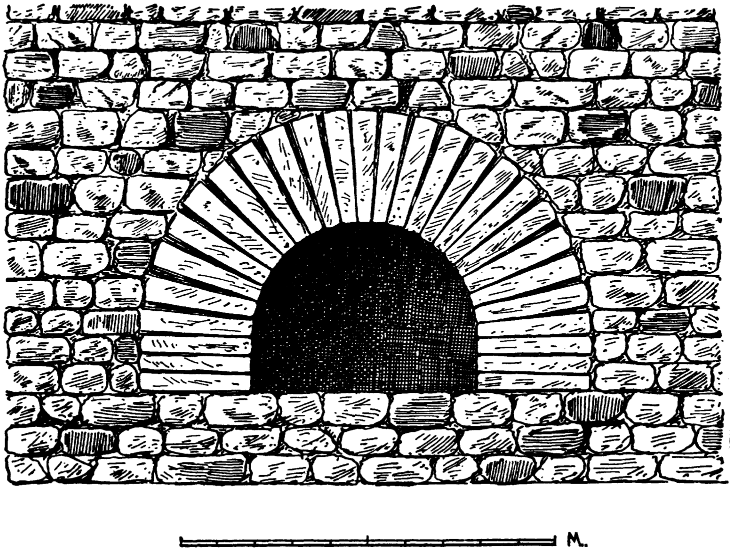

FIGURE 15. — CHANNEL OF AQUEDUCT FROM ZARÒ TO GORTYNA.

Before, however, leaving the cool valley of Zarò, I must mention that near the spring some remains exist, apparently of a Roman villa, as may be seen in the accompanying plan (Fig. 16). There was still above ground a sort of entrance passage 8 m. long and 5 m. broad, leading into a spacious chamber 30 m. long and about 9 m. wide.

The solidity of the walls, built in solid *emplecton* and dressed in beautiful bricks disposed with the greatest accuracy, lead me to suppose it the villa of some rich citizen of Gortyna, where the beauty and salubrity of this mountain resort could not have escaped attention; and I recommend the site to some future explorers of the island as a possible field for important discoveries.

If we have not been able to accompany the aqueduct along its whole course from Zarò to the valley of Messarà, we, however, meet it again at the entrance of the gorge, about 500 m. from the Gortynian Acropolis, with a truly surprising group of constructions. As is seen in the sketch of the general plan (Fig. 17), we find the aqueduct branching off into two parallel watercourses, 43 m. apart from one another, along the right

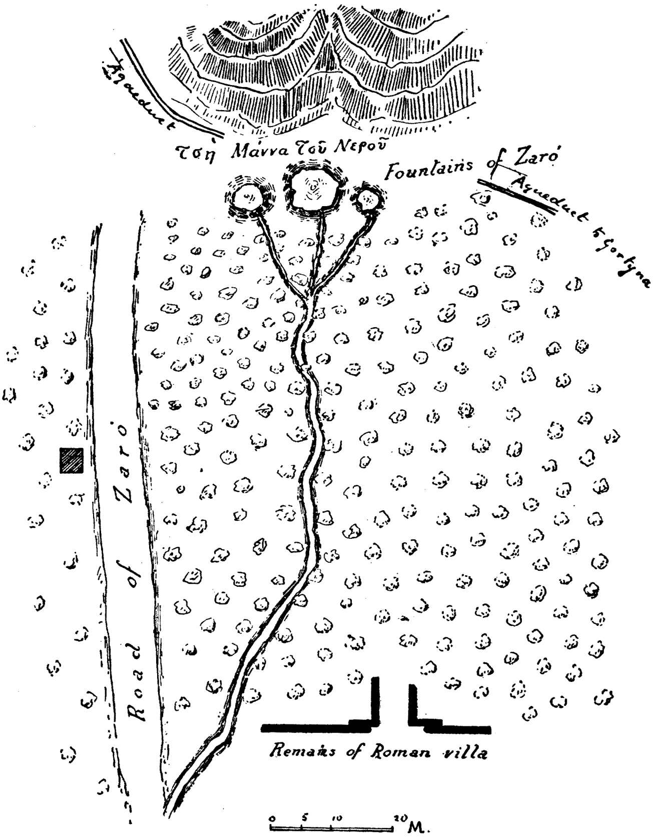

FIGURE 16. — FOUNTAINS NEAR A ROMAN VILLA.

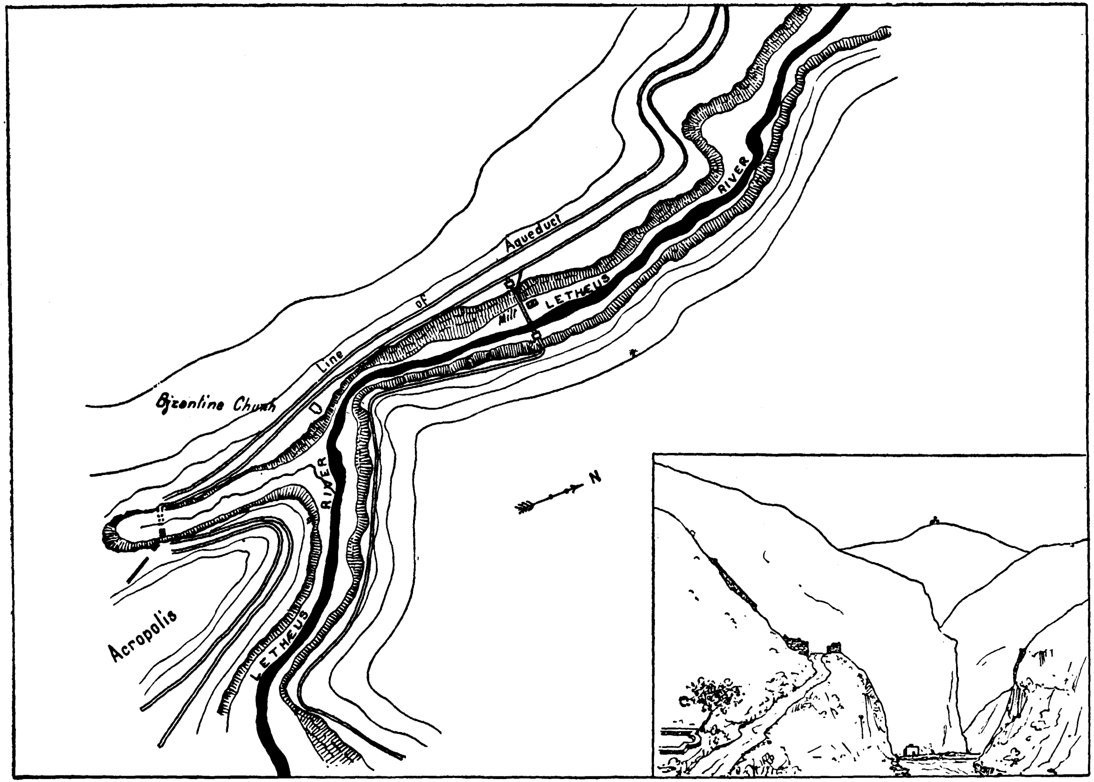

FIGURE 17.—THE ROUTE OF THE AQUEDUCT NEAR THE ACROPOLIS.

flank of the valley at a great height (about 100 m.) above the river — a disposition necessary for conveying the water to the higher quarters of the city.

From the absence of all deposits in both of the channels, we may venture to assert that this is one and the same aqueduct originating at Zarò ; and that, at a certain point which I have not yet been able to determine, the main line was divided into two parallel branches destined to supply the various parts of the city.

I remarked the two aqueducts at the point where, from the higher slopes, they gradually descend along the side of the valley, following its curves into a little dell near the place called *'σ τὸ μῦλο*, from a mill which forms a characteristic spot in the depth of the *φαράγγι* gorge.

Of these two aqueducts, the higher seems to have been larger than the other; they are, however, constructed exactly alike, and with the same scrupulous care to preserve the water from the sun's rays. Both are supported along the side of the mountain, and placed upon a ridge of the steep declivity, and constructed in *emplecton* with the external face in split stones laid in courses. The channel, lined with a strong stratum of mortar and pounded shells (as before described), had a different form in the two aqueducts and in the various points in which I made my sections.

The higher aqueduct has its channel mostly rectangular, 0.65 m. in height and 56 m. in breadth, narrowing a little at the top. In some places, however, especially near the Acropolis and toward the mouth of some one of the reservoirs or pools, the channel becomes narrower and is 1 m. high, showing that peculiar section, large at the bottom and narrow at the top, which is found in the Roman aqueducts, and which is in accordance with the rules prescribed by the Roman architects (Fig. 18). The construction of the aqueduct is 1.70 m. high and 1.80 m. in thickness.

The lower aqueduct, on the other hand, preserves always the same section and has — at least for the stretch near the Acropolis — the same volume of water (0.55 × 0.45 m.; see Fig. 19). The construction of this aqueduct for the stretch aforesaid is only 1.10 m. in height and about 1 m. broad; but it is to be noticed that it was this lower aqueduct which, as we shall see, had for the most part to supply the many sluices that fed the lower quarters of the city; hence, in its earlier course, it would be considerably larger.

Both the aqueducts had the channels covered in masonry for the above-mentioned purposes. At some points were evident repairs made at epochs of lesser prosperity and with greatly inferior work.

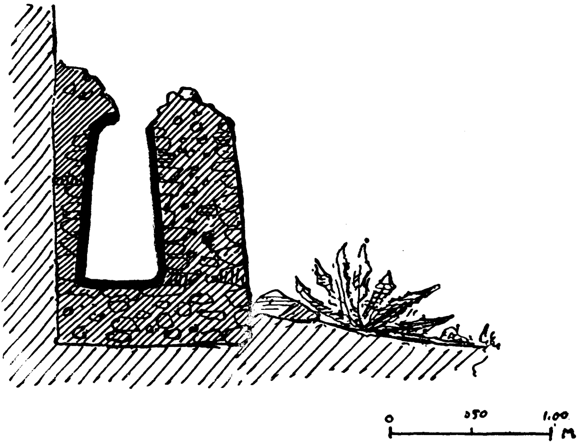

Figure 18. — Section of the Aqueduct (Upper).

As is seen in the plan given (Fig. 17) and from Fig. 20, one of the most remarkable works of the Gortynian aqueduct was a great siphon: a fine application of the principle of equilibrium of liquids well known to Roman hydraulists, and largely applied in the aqueducts of the Campagna and the Provinces.[1]

From the aqueduct starts, perpendicularly to its axis, a channel, resembling it as to section and dressing, which after the course of little more than a metre enters a chamber, 3.20 m. wide and certainly more than 3 m. long, constructed in *emplecton* varied by courses of bricks, and dressed externally with bricks and internally with the usual impermeable lining. From this chamber, certainly destined to collect the water and give it the needful pressure to make the spring across the gorge and to rise again to the same height on the opposite ascent, the aqueduct turned off, descending a very steep incline for a space of 11 m.

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[1] The aqueducts of Patara, Texier, *Desc de l'Asie Mineure*, III, p. 224, pl. clxxix; also aqueducts of Lugdunum (Lyons); Bonardet, *Add. aux Comment. de Frontin*, etc.

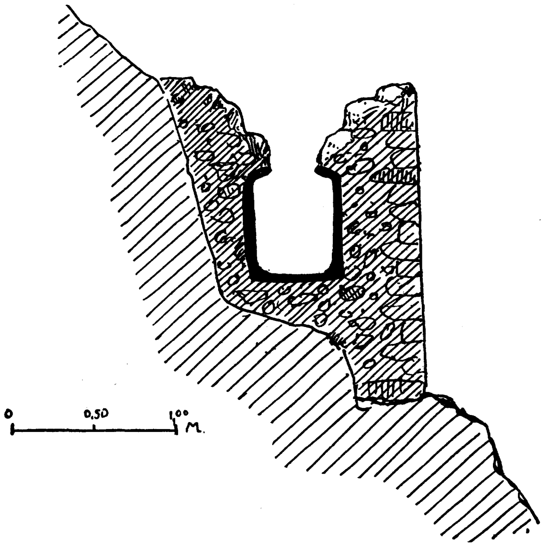

Figure 19. — Section of the Aqueduct (Lower).

It is to be noted that besides this conduit which detaches itself from the aqueduct, there was another (Fig. 20), which about 10 m. higher up left the aqueduct in an oblique direction to join the descending channel, perhaps for the purpose of diminishing the pressure of the water on the walls of the siphon. After this stretch of sheer descent, the aqueduct has a more level course, in which the channel presents in the plan some angles and curves intended to arrest the impetuosity of the water that comes from a distance, and from higher levels in a closed channel, at a naturally ever increasing speed.

The aqueduct afterwards begins the descent again, but very gradually; the channel is elevated for a space of 9 m. as the mountain descends, until the aqueduct reaches a height of 5 m. along the road which skirts the gorge, a road that certainly followed the line of a very ancient way, along which this water-course reared its massive pile, which was strong enough to defy with impunity the enormous pressure of the water at this point, and far more effectually than the strongest metal conduit system could have done.

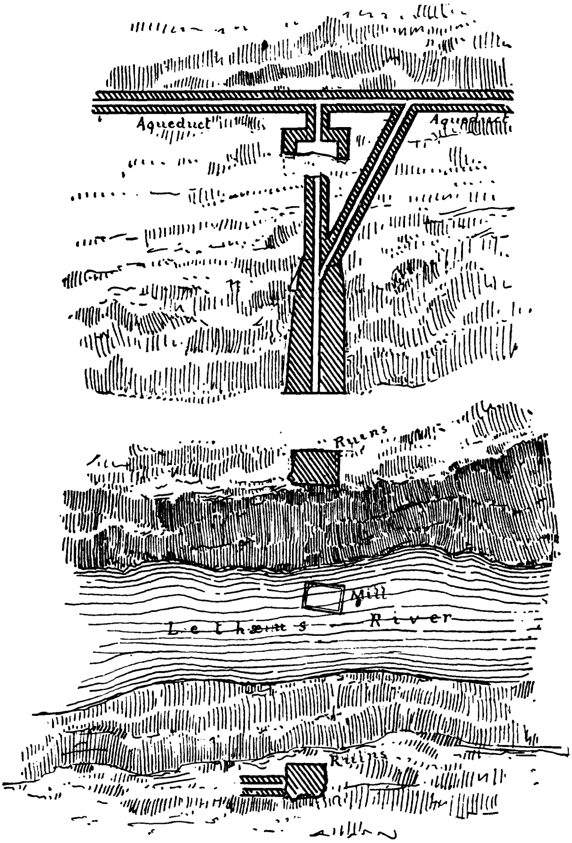

Figure 20. — Plan of the Siphon in the Aqueduct near the Lethaeus.

Skirting this kind of pile it passes the present mule path to Rafti; and as from certain substructions and foundations recognizable lower down, we may suppose that this path follows the line of an ancient road, there is little doubt that at this point the siphon had an arch, now destroyed, under which the road passed. After the interruption by the mule path of about 8 m., we see a stretch of the aqueduct of some metres reaching the edge of the torrent, which runs here imprisoned between steep banks about 20 m. high. Notwithstanding all my researches in the depths of the gorge, I was quite unable to discover whether the aqueduct made a sheer descent at this spot to the bed of the stream, to reascend to its own level again, or whether it spanned the gorge with a bold arch 25 m. broad. This supposition does not seem to me tenable, because even allowing for the great and continual force of the torrent, some traces of the viaduct and fragments of the arch would have surely remained in the bed of the stream. But not to lose time in conjectures, and keeping to facts, we must observe that on the left bank of the gorge, opposite the pile on the right, the channel of the aqueduct is again seen in the steep wall of rock, ascending toward a chamber placed almost at an equal height with the siphon. Alas! the denudation of that precipitous rock, totally divested of vegetation, left me without possibility of foothold to examine that part of the siphon accurately. It was at the same time quite plain that the aqueduct from that chamber, ever clinging to the flank of the mountain, proceeded with a slow and regular decline along the whole gorge in front of the Acropolis; until having reached the mouth of the valley it bent suddenly eastward, gliding close to the hill, and thus becoming a kind of general provider from which detached themselves the various conduits for supplying the villas and the quarter situated in the region now occupied by the village of H. Deca. In this section, the aqueduct, known to the peasants with the name of *καμαράκια*, and directed toward the east, was a construction about 1.70 m. high and the same in breadth, with a channel 0.50 m. wide by 65 cm. high. Figure 21, here subjoined, gives a section of a portion of this aqueduct in the plain, situated near the church of St. Titus, and probably destined to bring the water to a large group of buildings, called the Megali Porta, and which for various reasons I am inclined to think the *Thermae* of the city. But let us return to the gorge. After the ruins of the siphon, the aqueduct in its twofold course passes near the ruins of a little Byzantine chapel, which, built of fragmentary material and near the mule path, is supported on evident traces of ancient foundation walls (Fig. 22). We advance then (the two branches of the aqueduct always approaching nearer) into the valley of the ῥυάκι, which skirts the Acropolis on the northwest, ascending it almost entirely near the point at which the hill of the Acropolis joins the mountain. At this point, the two lines of aqueduct approach very near, the one remaining, however, about 5 m. lower than the other, and crossing the valley here also with a siphon bridge, of less grand dimensions, however, than that already described.

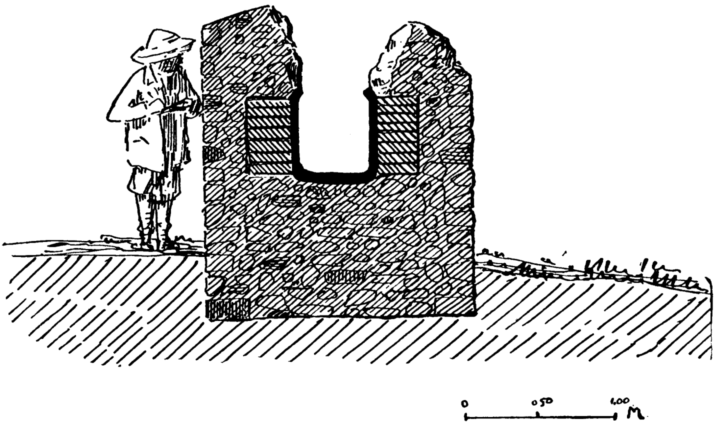

Figure 21.—The Aqueduct on Level Ground.

Here also the structure is much ruined; but the right shoulder of the bridge, or viaduct, is visible for a space of 7 m. in length by 3 m. in width, with 4 m. in height; constructed as usual in *emplecton* with facings of split stones, and the open arches of the viaduct regularly disposed.

Along the other side of the ῥυάκι, but about 5 m. lower, as already said, is the other branch, distant 12 m. from the right one; built as usual of *emplecton* and dressed with alternate strata of stones and bricks; of this branch portions of the arch built with large bricks were still visible. Although 12 m. did not make too vast a span for the arch of a Roman engineer (that across the river Lys on the road to *Summum Poeninum* in the Val d' Aosta, is more than twice as wide, 30.50 m.), I must say that in the present case it was but small, and that the aqueduct spanned the ῥυάκι with two arches of about 5 m. each, resting on a pile of about 2 m. in thickness.

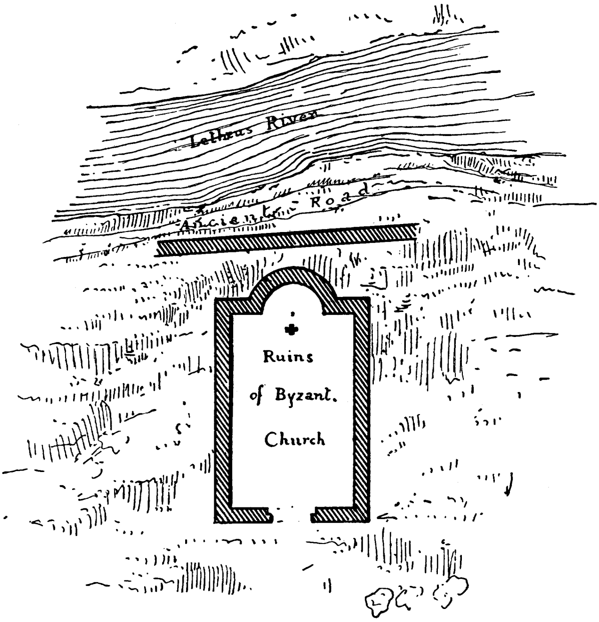

FIGURE 22.—PLAN OF A RUINED BYZANTINE CHURCH NEAR THE LETHAEUS.

As the left pile, lower than the other, carries the channel of the lower aqueduct, while the right pile bears the traces of the upper channel, we may assume that the bridge had two stories, either obtained by a second row of arches built above the first, or by an elevation supported upon the lower arcade, as is frequently the case in the aqueducts of the Roman provinces.[1]

On the declivity of the Acropolis, we find the traces of a new forking of the aqueduct: two arms, bent first toward the northeast point of the Acropolis, make another turn in the gorge and coast the eastern side; the other branch bends southwards, skirting the western slope of the Acropolis, and then sinks with a rapid incline toward that part of the city situated west of the Lethaeus, where now are the fields of Ambelouso. This section of aqueduct in one point below the Acropolis passes into the ground for about a hundred metres, keeping at a depth of from 8 m. to 12 m., and this for the purpose of avoiding a spur of the Acropolis. In this tract of *cuniculus* (subterranean conduit) is still visible and well preserved one of the wells which, as prescribed by hydraulic rules, served for ventilating the underground channel.[2] The well (Fig. 23) in quadrate section, at the mouth measuring 1.50 m., is 12 m. deep, reaching the channel, which I have been able to follow for 45 m. in the plain until it again ascended to the surface. The well was accurately built in split stones, and in the portions nearer the surface was restored at a less ancient date, as it served the peasants for drawing up water from a spring which followed, and still follows, this underground passage excavated by the hand of man.

The two parallel channels which make the round of the Acropolis, entering the horrid gorge, are in many places cracked and broken from the steepness of the rock; and their course is therefore quite visible, as well as their construction.

The upper aqueduct, although its whole course can be followed upon the slopes of the Acropolis and its formation studied, is the one which has suffered most from the action of time and the conditions of the soil. But if it is badly preserved, there are, on the other hand, quite visible some constructions connected with it. One of these is a vast rectangular enclosure formed by a stout wall, of the thickness of 2 m., with the external facing of stones carefully disposed and based upon a kind of step in larger stones, and for the most part buried. Toward the interior the wall of this vast chamber was about 2 m. high, with a kind of stone bench, 0.70 m. broad, running all round at the half height of the wall. From the traces which were visible without attempting excavations, the whole floor was laid down with an impermeable pavement; it is certain that at the distance of 8 m. the upper aqueduct was visible in this direction. Above the northwest wall of this chamber was founded the wall defending the Acropolis, of which we shall speak farther on, and the ruins of which had invaded our ground. As there was no trace of any roof, this could not have been a reservoir for water; but there had probably been an *exedra* for gymnastic

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[1] Examples of double lines of arches: Segovia, Gomez de Sammasuta, *El Agueducto de Segovia*, Madrid, 1820; Canina, *Arch. Rom.* p. clxvi; that of Tarragona, Laborde, *Voy. Pitt. en Espagne*, I, p. 32; Gard, near Nîmes, Menard, *Hist. Ant. Nismes*, p. 69.

[2] Pliny, *Nat. Hist.* xxxi, 31; Vitruv. viii, 7.

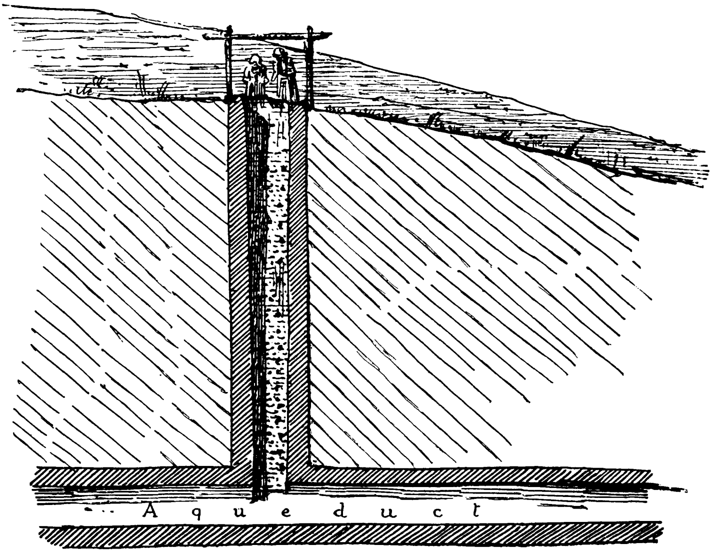


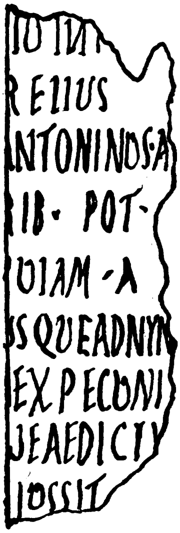
FIGURE 23. — WELL INTO THE AQUEDUCT NEAR THE ACROPOLIS.

exercises in Greek and Roman ages upon this hill, and here might have been the swimming-bath for the youths of Gortyna in connection with it. After this *piscina* the upper aqueduct proceeded toward the west, and then south, but the remains are only visible for a short distance.

Also for reservoirs were destined two buildings, which are connected with the lower aqueduct. They are of lesser dimensions than the above, but of equally perfect execution.

Another chamber, situated about 0.50 m. southeast of the theatre, 3.50 × 3.50 m. square, and 1 m. above ground, was so well preserved with its internal coating as to be still quite fit to use as a bath.

Along with all these hydraulic studies I must also place this fragmentary Roman inscription, found in a stable of the village of H. Deca, where it does duty as the architrave of the door. The stone is calcareous, of the island; the greatest height of the portion preserved is 0.52 m.; width, 0.35 m. Size of letters, 0.04 m.



. . . .
. . . *Au*]*relius*
. . . *A*]*ntoninus A*[*ug.*]
. . . *t*]*rib. pot* . . .
. . . *viam a* . . .
. . . *usque ad nym*[*phaeum*]
. . . *ex pecuni* . . .
. . . *atqu*]*e aedic*
. . . *iussit*

From the epigraphic characters such inscription would seem to refer to Elagabalus (A.D. 218–222), because his title was precisely *Imp. Caesar M. Aurelius Antoninus*, and his sympathies for the Oriental provinces of the empire are well known. From the context of the inscription it would seem to relate to a road, made by order of the Emperor, which led from a given point to a *nymphaeum.* Given the enormous quantities of ruins still unexplored in the plain of Gortyna, it is quite outside our present business to inquire as to which of these the *nymphaeum* of the inscription would be applicable.

II. THE FORTIFICATIONS OF THE ACROPOLIS

The idea of an Acropolis naturally leads us to think of a wall of defence behind which the garrisons sheltered themselves; for no matter how strong a position may be in itself, a strengthening of the weak points was never neglected in the acropoleis or fortresses of all places and all times, as in Acro-Corinth, Château Gaillard, Suse, and the entrenched camps that surround the historic heights of Rivoli.

The hill also of H. Ioannis is surrounded near the summit by a girdle of wall, in part demolished, but the line of which it is still quite possible to follow, as is given in the general plan of the Acropolis (see Fig. 3), and from the various sketches added here.

As the hill of the Acropolis (as already said) rises with a continuous ascent, and has at the summit but a circumscribed tract of level ground, almost a great "ass's back" or convexity, it is evident that the wall of circumvallation must be always built close to the steep edge of the Acropolis, and hence exposed, like other edifices, as already mentioned, to the crumbling of the rock. Examining the general plan of the walls, it is certainly possible to form a clear idea of their course; it will be proper here to add some touches and some reflections upon the particulars of the wall itself and its mode of construction, the only data which can serve us for ascertaining approximately the epoch to which we can carry it back.

The wall of circumvallation of the Acropolis has a circuit of about 500 m.; it is hence a not indifferent circuit, nor less than that of various ancient castles or strongholds. In general this wall marks the point at which the sides of the Acropolis fall sheer down from that convex back which forms the summit of it, and they have hence a not easily accessible front turned everywhere to the enemy, according to the military principle adopted in all ages, to render the approach of the assailants as difficult as possible.

Commencing our circuit from the northern extremity of the Acropolis, we perceive the wall of circumvallation, for a space of 33 m., rising from the ground at the medium height of 5.50 m. to 6.10 m. at the highest point, and with a thickness of more than 2 m. For this length the wall still preserves, in part, its exterior facing of great blocks of *poros*-stone, well squared and carefully placed, derived, as we shall see later, from other preëxisting buildings, demolished either before or on occasion of the erection of this defence; however, great part of this outer facing has fallen, the lower part of the wall having been stripped, either during a siege, or more probably by the peasants in search of material for their huts in the plain. With a sudden angle at the northwest extremity, — an angle which almost indicates the vertex of the great triangle formed by the Acropolis, — the wall turns toward west-southwest, rising from a rather broader base than the rest of the wall, to a height of more than 4.50 m., for a stretch of about 23 m., in which were still preserved in part both the outer dressings in great blocks of *poros*-stone, which enclosed the kernel of *diamicton* or *emplecton*.

After this section of 23 m., the wall on the west side has an interruption; its course, however, is quite visible. From the traces remaining, a sharp drawing-in of the line of wall is perceptible, following the shape of the hill. At 70 m. from the northwest angle we come upon the wall again for a space of 13 m., but only the internal formation is preserved; and, after a long gap of about 40 m., where only a few traces are left, we come again upon the wall, well preserved and of a medium height of 4 m., which runs with a slight bend eastward for a space of about 26 m. After this we come upon a sort of large tower, projecting 7.50 m. from the line of wall, with a front of about 10 m. This kind of tower, the base of which is formed by a spur of the mountain, is only preserved in its lower portions for 3 m. or 4 m. of the height, and hence we cannot tell whether an actual tower was here erected, with upper floors, or whether this was merely a projection of the wall of circumvallation to strengthen the angle which here presented itself.

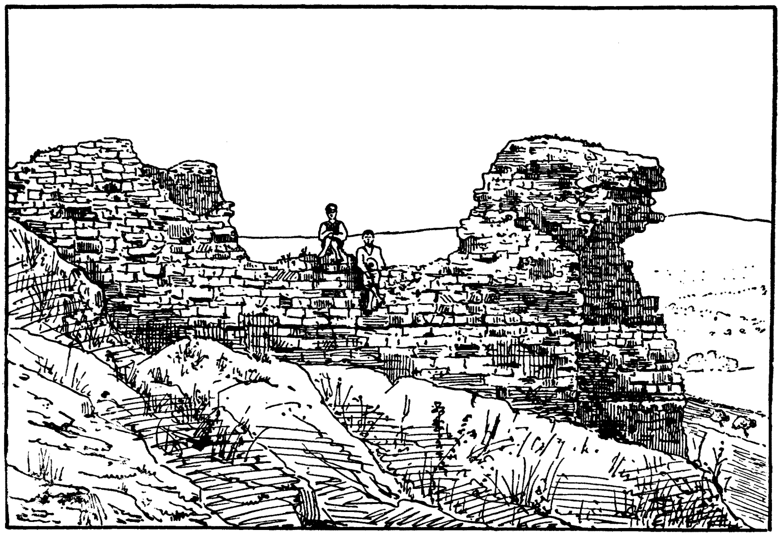


FIGURE 24.—VIEW OF THE POLYGONAL BASTION (FROM THE NORTH).

From this kind of tower the wall, always visible and elevated some metres above ground, directs itself toward the south with an oblique line, dominating the weak point of the Acropolis; that is to say, where the declivity of the hill is least abrupt, and where it joins on to the neighboring mountain. At this point the wall presented a tower, in form of an irregular polygon, forming a projecting spur, almost a bastion, of the maximum height, still preserved, of 6 m. This tower, the sketch of which I here give (Fig. 24), consists of a stout mass of masonry, 2.90 m. in thickness, made in the usual manner, and faced externally with regular bands of small split stones. In the lower part, however, project from the ground courses of stones of greater dimensions, forming a strong basement. This large tower encloses in its interior a chamber 5.20 m. in length by 3.40 m. wide, with walls curved toward the outside. Traces of the vaulted roof are still visible, which collapsed internally. These ruins and the giving way of the soil outside the wall prevent us from discovering the mode of access to this tower chamber, which might also have been a reservoir for water.

From this point the wall took a direction toward the southwest angle, whence suddenly it turned eastward, still supported on the precipitous flank of the Acropolis. The southern front, scarcely visible any longer above ground, was rectilinear, without projections of any kind. This was a point at which the Acropolis dropped sheer down several metres, and this natural rock fortress is crowned with the wall of circumvallation, which at no time needed to be very high in this place.

Having reached the southeast angle, the wall skirts the great reservoir, mentioned on p. 118, above which it rears itself nearly 5 m., presenting a face overlaid with large and fine slabs and blocks of *poros*, as well as architectural elements of the most varied kinds, not to mention fragments of inscriptions. Scarcely past the grand reservoir, the wall continues along the eastern side of the hill with a broken line, somewhat drawing inward (see Fig. 3), until it comes round to the northeast front, whence we started.

In this portion of its course the wall of circumvallation presents neither towers nor other works of defence, but is, in almost all its parts, composed of a double line, one lower than the other, as if intended for additional support, carefully built with blocks of equal dimensions ; these were apparently terrace walls of the good Roman period, used later to strengthen the wall of circumvallation, and can be easily followed, although scarcely above ground, and almost everywhere built, especially the exterior portions, of handsome stones of regular cut and arrangement.

Though it is possible to follow nearly the whole circuit of the wall, it escaped me where the gate of access to the enclosure defended by that wall could have been placed, especially as no traces remain anywhere of works for the defence of a gate; still, I am inclined to think, from reasons I shall give later, that the entrance was from the southern side, by means of an inclined plane cut in the rock itself. Similarly, the special provisions for defending the wall escaped me, such as the path for the patrols and the parapet, since along the whole line of circumvallation the upper portions are utterly lost.

The line of the walls having been examined, it remains for us to consider somewhat more fully their construction and plan, that we may arrive, if possible, at a conclusion as to the epoch when these walls were erected. As I was able to remark in the portions of the line still preserved, — for example, on the north front or at the square tower, or in the front above the grand reservoir, — the wall was composed, according to what we see in a great number of ancient buildings, externally, of large and coarse materials irregularly arranged, while the internal portions consisted of stones carefully cut and well placed, which, from the steep declivity of the ground, are nearly always out of sight. The kernel of the wall is composed of an *emplecton*, or rubbish-work of the most ill-matched elements, — pebbles, stones, broken pieces of marble and pottery, architectural fragments, — all bound in abundant and exceedingly viscous mortar (Fig. 25). This mortar is so strong that not only has the *emplecton* resisted in places where the whole external facing has been broken off, but also where the lower courses are wanting, some of the stones are actually held together by the mortar itself. This *emplecton*, unlike the method followed in the edifices of the best Roman period, — a splendid example of which outside Rome remains in the *Cinta Augustea* of Turin (*Augusta Taurinorum*), — is not regularly laid in strata, divided by courses of stone or bricks which serve to bind the wall, as in the walls of the theatre of the "Vigles," in the greater part of the Roman buildings at Gortyna, and elsewhere,[1] but it forms a whole compact mass, as in the walls of Pergamon and other cities of Asia Minor.[2] In this body, which was naturally formed by degrees as the two facings rose, there is now and then some great block of the external covering which penetrates inward more than the rest, thus serving to bind and consolidate this *emplecton*, on which depended the greater resistance of the wall.

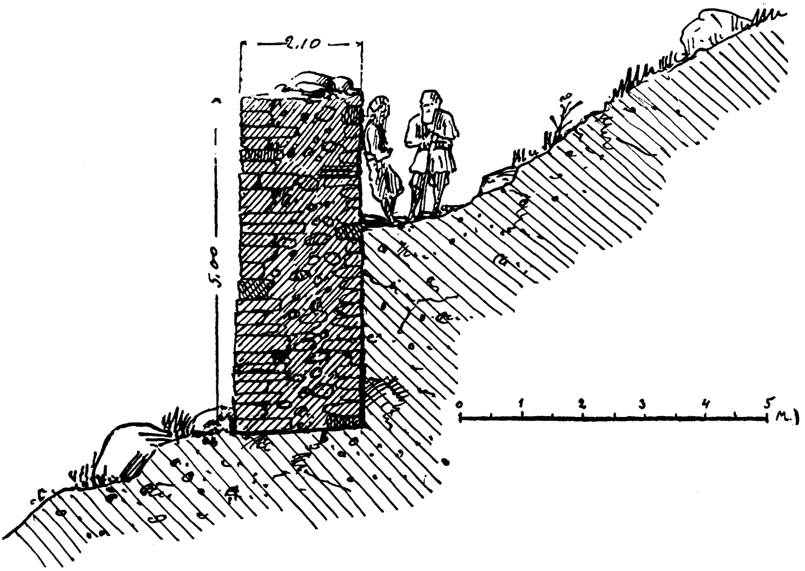


FIGURE 25.—SECTION OF THE CIRCUIT WALL OF THE ACROPOLIS.

The two spaces in which are still preserved in great part the facings or coatings, are the north front and that of the west; but also in other points of the circumvallation the process is manifest of applying to the outer side of the wall all the larger blocks of stone which we had the fortune to find in the Acropolis itself. And that all these were material de-

[1] Durm, *Handbuch der Architectur: die Baukunst der Römer*, pp. 140 ff.

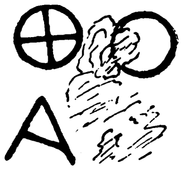
[2] Fabricius, 'Eine Pergamenische Landstadt,' *Athen. Mitth.* XI, p. 6.

rived from other buildings can be seen, not only from examining all their elements and architectural fragments, but also from the fact that the greater number of the stones, also on the sides built up in the wall, presented that beautiful warm tint acquired by this stone in the sun's rays, which could certainly not have been the effect of its long sojourn in the inside of the wall of circumvallation.

Examining one portion of the line of wall where the facing is most preserved, as on the east side near the reservoir (*piscina*), we perceived, among the other architectural elements there walled in, a great block of *poros*-stone, constituting the roof of a small *aedicula.* As it was split in two, the section was visible which presented the form of the tympanum, with an elegant profile ; at a little distance were met with pieces of little fluted columns of the same material belonging, probably, to the same *aedicula.* Embedded in the same wall near the vertex of the triangle I found a terminus, or cippus, in *poros*-stone, which bore on its surface some signs scratched with the compass about which I cannot decide whether they were the work of some idler or of an architect. Thus, also, near the northeast angle of the Acropolis, I found a fine fragment of the frieze of a Doric cornice, perhaps belonging to the same edifice, with its *guttae* well preserved, with its lions' faces sculptured in fine work, which I here present, along with the Latin inscriptions, in Fig. 26. And likewise continuing along this east front and the north front of the circumvallation, it was easy to distinguish amongst the walled-in masses the various portions, — almost the *disjecta membra* of other monuments, — so that we are induced to think that the builders of this line of walls, like the engineers of Aurelian at Rome, made up their minds to use for their works of defence whatever material came to hand from the demolition of the buildings in their way as they traced the line of wall, thus saving themselves the carriage of bricks and stones from a distance. This remark, made by Lanciani and others as regards Rome, is equally applicable to the Acropolis of Gortyna, and it may perhaps assist us in imagining for the construction of this modest work of defence a cause not less urgent and terrible than that which counselled the provision of Aurelian with respect to the capital of the Empire. We are therefore very far from the epoch in which Gortyna could aspire to the Homeric title of *τειχιόεσσα*; instead of that we are in an epoch of great decadence, contemporaneous with, or perhaps subsequent to, the fall of the Roman Empire. This is confirmed also by the presence of the epigraphic material which I could discover shut up in the walls, and which, perhaps, is but a small portion of what still remains hidden there.

The epigraphic fragments found in various places on the walls, or enclosed within them, are the following, which I here reproduce,—although insignificant for the greater part,—in order that they may throw some light on the question.

(1) In the eastern wall, near the *piscina*, a block of *poros*-stone, irregular in shape and the surface much corroded, about 0.50 × 0.60 m. in dimensions, has these letters, 0.15 cm., much erased:



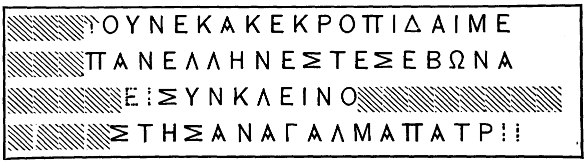
(2) Fragment of a *poros*-stone slab decorated above with an elegant module, in which were traces of a colored ornament in azure and brown (perhaps once red). This fragment was a portion of a sepulchral monument, and measures 0.32 m. high, 0.72 m. long, 0.26 m. in thickness; the letters, elegant, apicated, and well cut, are 0.042 m. high, and show traces of red coloring.

ΔΕΙΝΟΚΛΗ
≤ΩΜΕΝΩ

Δεινοκλῆ[ς | Σωμένω

It was walled in on the north front of the circumvallation.

(3) Walled into the north front near the northwest angle is the following block of *poros*-stone bearing part of a metrical inscription. The inscribed face of this block measures 0.92 m. in length and 0.35 m. in height by a thickness of more than 0.60 m. The letters, partly obliterated, have the height of 0.055 m.



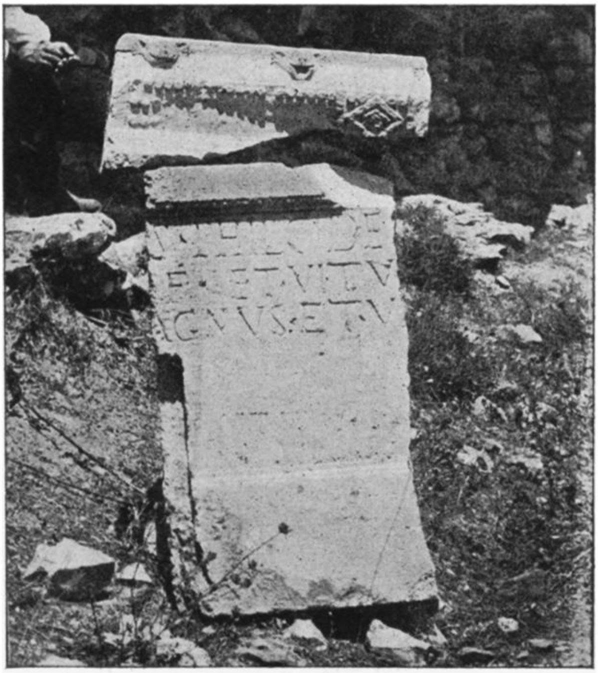
ΟΥΝΕΚΑΚΕΚΡΟΠΙΔΑΙΜΕ
ΠΑΝΕΛΛΗΝΕΣΤΕΣΕΒΩΝΑ
Ε:ΣΥΝΚΛΕΙΝΟ
ΣΤΗΣΑΝΑΓΑΛΜΑΠΑΤΡ

We have here what remains of a dedication of an agonistic subject, in three hexameters and one pentameter. I am indebted to Professor Comparetti for much light on the fragment and for the restorations here offered. The inscription treats of a certain Sebon, who was proclaimed victor in the public games at Athens (and elsewhere), and, perhaps, at Olympia, in Pan-Hellenic contests. It is impossible to determine in what special events he was victorious, — whether in wrestling, in the pancratium, or in some other event, — and I cannot therefore attempt definitively to restore the first two verses. The second and third verses are so mutilated that they afford even less; we do not know whether the subject of *στῆσαν* is *Κεκροπίδαι*, *Πανέλληνες* being in a different sentence. As a possibility, the following restoration is offered :

Πυγμαχίας (?) *μὲν ἀέθλων*] *οὕνεκα Κεκροπίδαί με*
καὶ . . . καὶ . . .] *Πανέλληνές τε Σέβωνα*
ἀνδράσι Γορτυνίων ἄστ]*ει σὺν κλεινο*[*μάχοισι* (?)
ἐνθάδ' ἀεθλοφόρον] *στῆσαν ἄγαλμα πάτρ*[*ῃ*.

(4) Fragment of a votive altar or sepulchral monument in *poros* (Fig. 26); dimensions of the portion preserved, 0.85 m., length; 0.51 m., breadth; thickness, 0.30 m. The inscribed face presents at the top a cornice, 0.09 m. in height, and a lower one, 0.27 m. high. The stone has been sawn on

both sides; and besides that, the right side, along its whole length below the inscription, shows a concavity, about which I could not decide whether it was originally hollowed out or was due to a secondary use of the stone before its insertion in the wall. The letters of the inscription, originally colored in red, are in the first line 0.07 m. high, in the other two 0.06 m.



S PHILODE
F·ET·VITV
\GNVS·ET·V

FIGURE 26. — FRAGMENTS FROM THE WALL OF THE ACROPOLIS OF GORTYNA.

This inscription is too fragmentary for restoration. The form of the letters, traced with singular elegance and care, seems to belong to the epoch between the Antonines and the Severi.[1]

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[1] Hübner, *Exempla Script. Epig.* fig. 79 seq.; Cagnat, *Cours d'Épigraphie Latine*, 3d ed. pl. i.

These fragmentary inscriptions, insignificant as to their contents, offer us a *terminus post quem:* we may maintain that the circumvallation about which we are occupied must be ascribed to an age posterior to that of the Severi; and, as we may suppose, to a time when the monuments of the Greek and imperial epochs were either already in ruins, — or were, for some serious danger, or necessity of defence, thrown down to furnish material for the defenders of the Acropolis.

In my opinion, this second hypothesis is the one to be preferred, because the material employed does not seem to have suffered from atmospheric action, except on the face exposed to the sun in its original collocation. Another proof of the haste in which the work of demolition was carried on, along with the construction of the line of circumvallation, we have in the fact that many masses forcibly disjoined from their neighbors still preserve, in the appropriate hollows, the bronze clamps which united the blocks. It was the search after these bronze clamps, practised in epochs of great public distress, which caused the demolition of so many ancient buildings.

And the occasions of threatened invasion, and consequent terror to the inhabitants of Gortyna, must have been frequent during the decline of the Roman Empire and under the Byzantine rule. Perhaps some more precise indications can be furnished us from considering the circumvallation itself.

In fortresses of the good Roman period, situated upon mountain summits, we see the tendency to follow with the *vallum* (or trench) the circuit of the hill, in such a way as to have an irregular line of wall, and not in conformity with the traditional Roman type of the *castrum;* here, however, in the Gortynian circuit of walls, we see applied several principles which are not found in towns belonging to the Greek and Roman world save at a given epoch and after contact with a determined military civilization.

The broken lines, the acute angles destined to render less extended the rectilinear lines of the circumvallation, belong to the inheritance of military art in the Greek cities from their earliest origin.

Setting aside the numerous proofs furnished by the excavations of the Mycenaean acropoleis of Tiryns, of Mycenae, of Troy, of ̦Gha near Lake Copais, — we can multiply the comparisons of Hellenic and Hellenistic epochs ; broken lines are those of the fortifications of Athens, of Colophon, of Notion,[1] of Iasos.[2] Similarly very frequent is the application of the rectangular projections or towers, advancing more or less beyond the line, which are principally directed to strike the flank of the enemy advancing toward the foot of the wall. It is the system of all the Greek and Roman fortifications which we find applied in the defences of the colonies and of the various *limites*, and which takes its full development in the Aurelian walls and in those of Constantinople; where indeed the number of such rectangular projections or towers becomes exceedingly great.[3]

But the spur or polygonal bastion, dominating the weakest part of the Acropolis, is a fact less in keeping with the Graeco-Roman provisions of defence—a fact in which we already find implicated the principle of abolishing dead angles, which is a principle exclusively oriental. The polygonal form which allows the defender to fight the enemy at all points, whether front or flank (according to Dieulafoy), we have to recognize at a very remote period in Assyria, a country of almost exclusively military civilization, whence it must have passed into all the countries anciently in contact with her. It is through this Assyrian influence that Dieulafoy explains some fortresses in the Upper Nile Valley, which at first sight would seem to belong to the post-Roman or Caliph era, so much do they resemble our fortifications of Gortyna ; but which instead must be ascribed to the conqueror of the Assyrians, Tuthmosis. This principle of defence passed later on from the Assyrians to the Persians, and from these crossed to the Parthians and the empire of the Sassanides ; then reached the Second Persian Empire, which transmitted it to the Byzantines. And the Byzantines, together with the other principle of multiplex lines of defence,— of deep, wide trenches,— applied widely the precepts of the military art learned from their terrible adversaries, in all those military works which, beginning with Justinian, the various emperors of the East initiated not only along all the frontiers of the Danube, Caucasus, the Euphrates, but in all the greater centres of the vast and declining Roman dominion. The fortifications of Trebizond, of Nicaea, of Thessalonica, of Constantinople,[1] show a step in advance compared with those of Rome, and present, instead of the jutting-out round towers, and the sharp angles, the principle inherited from the Persians to multiply the lines of obstacle to the assailant, to abolish dead angles where the enemy with slight loss could effect the approach to the walls.[2]

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[1] Schuchhardt, 'Colophon, Notion, Klaros,' *Athen. Mitth.* xi, p. 402.

[2] Fried. Walter, 'Iasos,' *Athen. Mitth.* xiv, p. 137, figs. 1–4; Curtius, *Stadtgesch. Athens*, pl. iv.

[3] Lanciani, *op. cit.*, p. 68; Texier-Pullan, *Byzantine Architecture*, *Military and Domestic Arch.*, pp. 23–54.

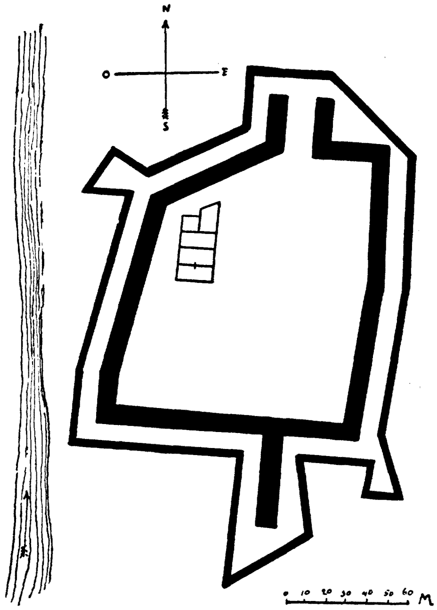

FIGURE 27.— PLAN OF THE FORT OF KOUMMEH IN EGYPT. (FROM DIEULAFOY, *Acropole de Suse.*)

So that, admitting these considerations, suggested to me by Dieulafoy's important work upon Persian military art and the influence it exercised upon neighboring nations, we can fairly ascribe this fortification of Gortyna to the times when the terrible incursions of the Scythians and Persians became general along the frontiers of the empire, and Justinian gave orders for the fortifying of all the strong places ; but the imperial troops not sufficing to defend such an extended line, territorial militia were created who had the charge of fortifying and defending the internal cities of Greece, the islands, Asia Minor, and the Archipelago.[1] Therefore the Gortynian fortress would represent this period in the life of the Empire of the East, when the alarm spread through the city for the *urgentia imperii fata*, and they had to provide for the defence of life and property, erecting with everything that came to hand a line of defence on the summit of the hill of H. Ioannis.

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[1] Dieulafoy, *L'Acropole de Suse*, pp. 202, 232, 442 ; Texier-Pullan, *Byzantine Architecture*, pp. 23, 24.

[2] Dieulafoy, *Château Gaillard, etc.*, p. 352 ; Choisy, *Hist. de l'Architecture* (Paris, 1899), I, pp. 147 ff.

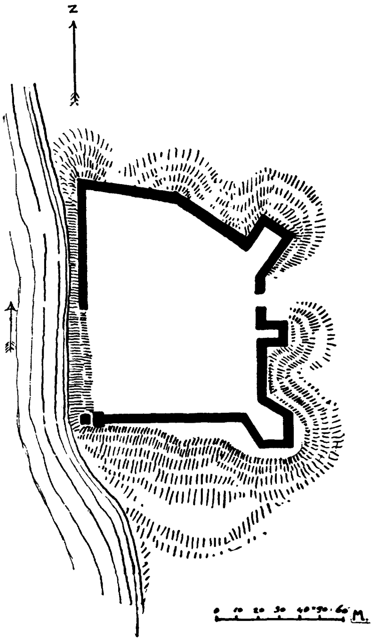

FIGURE 28. — FORT OF KOM-OMBO IN EGYPT. (FROM DIEULAFOY, *Acropole de Suse.*)

But the destruction of so many buildings and monuments of the classic and Roman age for the erection of this line of circumvallation may also have been the work of the Arabs; when, the attempt against Constantinople in 674 A.D. having failed, they succeeded in surprising and occupying Crete, making of it the centre of their incursions all over the Aegean Sea.[2] But we must keep in mind that the Arabs, in their contact with the Persians, learned the same principles of military art, of which the Byzantines had already taken advantage; and it is known how Mohammed, in fortifying Medina, had availed himself of the work of the Persian Selmân, and that after him all the caliphs and sultans had in their armies a corps of Persian "sappers and miners" and engineers,[1] to whose famous work are due the marvellous fortress of Aleppo[2] and so many others in Asia Minor, Syria, Egypt; from whom came so wide a stream of instruction to the crusaders of the West.[3] The fortress of Gortyna may have been the entrenched camp of this first Arab occupation in the seventh century, unless we should ascribe it to the period of the second Arab occupation of the island, which happened during the civil war occasioned by the usurpation of Thomas (823–826 A.D.), when the Caliph Habu-Hafs-Omar, at the head of his Andalusians, occupied Crete, which became for more than a century the resort of daring Andalusian, Syrian, and Egyptian corsairs, who with their continual piratic expeditions kept up a real blockade of the Aegean. This was the period of Crete's deepest desolation; that is to say, the period when the tyranny of these brutal and warlike hordes effected the greatest diminution of the Christian population, and the widest destruction of the monuments of the Graeco-Roman and Byzantine civilization. If we think of this long, cruel period of Saracen domination, and of their desperate resistance to the attacks of Nicephorus Phocas, who in 961 won back the island of Crete to the empire, we may well imagine also that beneath these walls must have taken place some episode of that campaign which constitutes one of the greater glories of Nicephorus Phocas; and a true glory because he withdrew the unhappy island for seven centuries from the Mussulman yoke, — the terrible scourge which only recently is forever, God willing, removed from the land of Minos.

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[1] Amm. Marcellinus, XVIII, 10 ; XIX, 2, 5, 8 ; XX, 6, 7 ; Hertzberg, *Gesch. der Byzant. und des Osmanischen Reichs,* p. 13.

[2] Hertzberg, *op. cit.*, p. 58.

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[1] Dieulafoy, *Château Gaillard*, p. 357, *passim;* Aboulfeda, *Hist. Arab. des Croisés*, p. 272.

[2] Girault de Pranzey, *Monum. Arab.* tom. xlviii; cf. Prisse d'Avenues, *Art Arabe*, I, vi.

[3] Dieulafoy, *op. cit.;* cf. Rey, *Étude sur les Mon. de l'Archit. militaire des Croisés*, p. 47.

The elevated position of the Acropolis, protected by the wall of circumvallation, was occupied by the ruins of an imposing edifice, — ruins called by the peasants τὸ Καστρί, — and which we find summarily indicated in the view of Tournefort and in Spratt's plan of Gortyna, by the name of *guard-house* or *prison.* From the plan I here subjoin (Fig. 29), if compared with Spratt's, it is easy to form an idea how from Spratt's epoch down to our own, the building has fallen into increasingly ruinous condition, especially in its southern parts, and is now so filled up with rubbish as to render it quite impossible for the traveller of to-day to draw accurate plans or elevations of it.

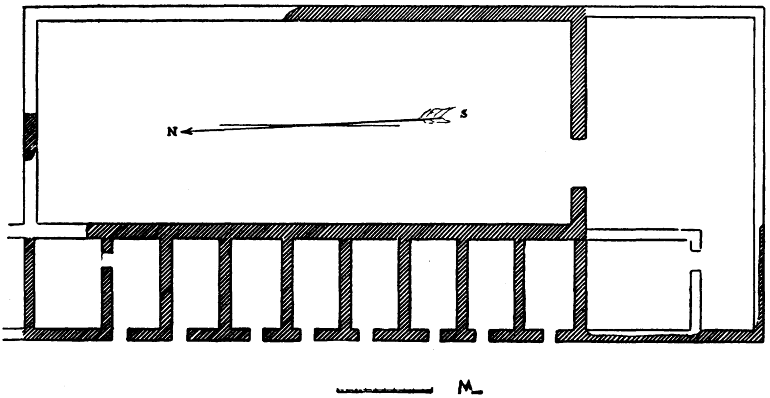

Figure 29. — Plan of the Κάστρο on the Summit of the Acropolis.

The edifice, which occupies the whole southern part of the acropolis, as appears from the plan, is a spacious rectangular enclosure 59 m. in length and 24.50 m. in breadth, against which on the west and south lean other chambers of lesser dimensions, and regularly disposed. The large enclosure seemed not to have internal divisions, and included a great hall or court, surrounded perhaps by a portico. The walls enclosing it were almost entirely preserved, reaching on the west side the height of more than 8 m. from the ground. These walls, constructed with exceeding solidity and care, in the same way as we have already seen in the other Roman buildings of the city, still show evidently their duplex coating in large bricks, which closed in the interior kernel made in strata of very solid *emplecton* or zones of *opus lateritium* (Fig. 30). The upper part of this wall seemed to offer some traces of where the vaulted roof had been attached, which covered a portico or ambulacrum surrounding the enclosure on the inside; but it would require a more careful examination to verify all these details. The small chambers fronting the west wall of the enclosure had no communication with its interior; but from the arrangement of the external coating of the wall of the enclosure it would appear that they entered into the original plan of the building; their mode of construction, however, is rather different, since the *emplecton* constituting their wall is coated with small split stones neatly placed in regular lines, alternating with courses of bricks; the tops, however, are in stones of greater dimensions, regularly disposed. The rooms on the west side are nine in number; they are of the same dimensions, 9.50 m. in length by about 5 m. to 6 m. in width, preserving, however, an average of 5 m.; they are all preserved up to the height of about 4 m.; two only, those to the north, communicate with each other; the others have entrance from

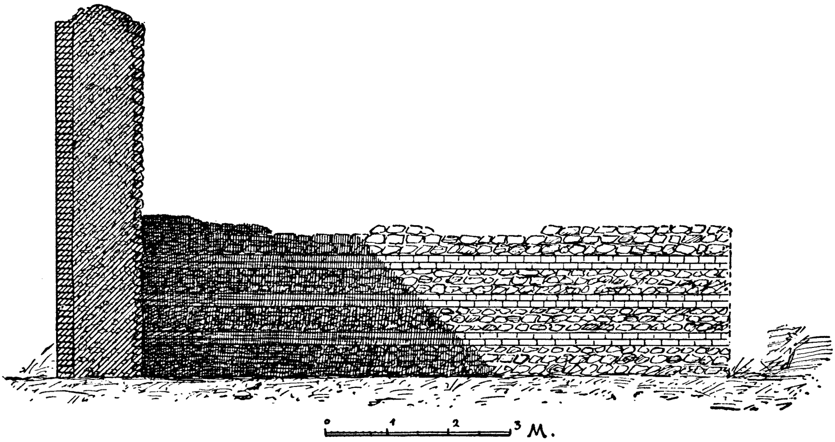

FIGURE 30. — SECTION OF THE WALLS OF THE Κάστρο ON THE ACROPOLIS.

the outside alone, by means of doors 1.50 m. wide. It would seem that on the south side also of this great enclosure were other small rooms of somewhat more spacious proportions, which formed a kind of wings flanking the principal entrance. This southern front had a width of 16 m., and showed distinctly two halls, of which in spite of the encumbering masses of rubbish it was possible to measure the dimensions (11 × 9.50 m.) (11 × 5.50 m.), and the dividing wall was about 1 m. in thickness. The fact that the entrance to this large building was from the south side, through a spacious door 3.50 m. wide, causes me to suppose that the access to the Acropolis, even in an age anterior to the construction of the fortifications, must have been from this side. There are other reasons for this belief.

As to the use of this edifice and its form we can only make conjectures; the existence of agonistic inscriptions found on the Acropolis, as also the great wealth of hydraulic works, make us think of a gymnasium, with its *palestra* and its various apartments. Nevertheless, from its position, commanding not only the Acropolis, but the whole city, as also from its plan and structure, the hypothesis may be perhaps preferable which Spratt suggested; namely, that this edifice might have been the *statio* of the Roman garrison of Gortyna. Evident are the analogies with the internal buildings of the Castro Pretorio at Rome; but still more so with the stations of the various cohorts of the Vigili, — as that of the seventh cohort in Trastevere or of the fifth on the Coelian, and of the sundry other military bodies encamped in the city, such as the *Equites singulares*, or *milites peregrini*, etc.

It is indubitable from its structure that the building is Roman, and that it was in use until a late period is deduced from the fact that in one of the rooms on the western side, where are traces of a later restoration, we found some inscribed fragments of stone, which were used as material for reconstruction. The inscriptions on these stones are given on the next page, though little can be made out of them.

(*a*) ▨Γ
ЄΝΘ
ΘЄω
ΧΡΥϹЄ
ΤΡΙΑ

Fragment of calcareous slab, 0.35 × 0.38 m. Letters 0.04.

(*b*) ΔΑΜΑϹϹΟΙ'
ΗϹЄΙλЄ
Ι Ν

Fragment of slab, 0.32 × 0.20 m. Letters 0.04.

(*c*) ▨Ϲ▨
ΝΙΚΙ▨ϹΑϹ

Fragment of slab. Letters 0.04.

(*d*) \/
Єω
ЄΟ

Fragment of slab, 0.25 × 0.15 m. Letters 0.04.

(*e*) ▨\▨
ΡΗΤΙΑ
ЄΞЄΦΗ
ωϹΙΑ
Δ

Fragment of calcareous slab, 0.40 × 0.23 m. Letters 0.04.

These fragments, of slight importance in themselves, are only interesting as showing that at an already advanced epoch, the edifice, repaired, still served for some purpose. Probably even after the erection of the line of circumvallation, the building, situated in such a dominant position, and so solidly constructed, continued in its military uses, and was occupied by the garrison of the little fortress to which was entrusted the defence of the sinking metropolis.

III. SEPULCHRAL CELL ON THE ACROPOLIS

Before leaving the Acropolis I must mention a building situated on its western declivity, some 30 m. lower than the line of the wall. This is a small sepulchral cell of rectangular form, covered with a vaulted ceiling, of which I give here a plan (Fig. 31). It is 2.40 m. in length by 2.10 m. in width, and was entered by a flight of steps. The side and end walls, coated in bricks, presented three *arcosolia*, each protecting a funerary niche 1.60 m. wide and about 0.50 m. deep, and the thickness of the *arcosolium* 0.30 m. The spring of the ceilings which covers the cell is of 1 m., and the vault rests upon the two lateral walls slightly above the extrados of the two *arcosolia*, and the post of the arch is marked by a little band of bricks projecting. In the end wall, above the *arcosolium*, below the ceiling, is a rectangular niche of 0.40 x 0.45 m. and 0.30 m. deep. The arched ceiling is constructed of splinters of stones and much mortar. We remark that at the four sides there are four pipes of terra-cotta and *amphorae* (long jars), which cross the massive ceiling, these latter destined to lighten the weight of it, and the former to ventilate perhaps the *hypogaeum*. While the lateral and end walls are built of fine brick work, although with a plentiful proportion of mortar, the entrance wall is constructed in stones of various sizes and all derived from demolished buildings, from which we may infer that the question is here of a restoration, or a subsequent readaptation of the funerary cell. The small entrance door, 0.60 m. wide, has a stone architrave, and has two little niches, one on each side, and not very deep; the ancient access to the *hypogaeum* was by means of a little staircase now completely buried; one to-day enters through a breach made in the front wall by the seekers after treasures who have completely rifled the tomb of all its ornaments and other contents.

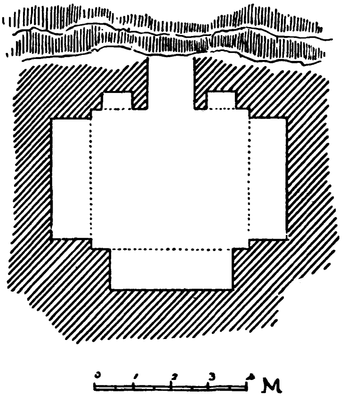

Figure 31. — Tomb of Roman Times on the Acropolis.

IV. ROMAN TOMB IN THE PLAIN

Another tomb of the Roman age, very similar to this of the Acropolis, was examined by Professor Halbherr and by me in the plain at some distance from the high hill of H. Ioannis.

In the course of my researches upon Gortynian topography, we were informed of the discovery of this tomb, which is not very far from the Lethaeus, on the road leading from H. Deca to Mitropolis, and about ten minutes from the *Megali Porta.* The locality where this tomb is situated, though included in the space attributed to the city of Gortyna, did not lead us to expect any group of ruins, although the boundary walls of the cornfields consisted entirely of ancient fragmentary material.

The tomb then was not surrounded with habitations, nor was it at the same time isolated. Although here, as elsewhere, systematic examination was impossible for me, I found, nevertheless, evident traces of other tombs, such as fragments of sarcophagi, of plain stone coffins, found and broken by the peasants in field-labor or in searching after treasure.

This tomb also had been greedily rummaged in hopes of treasure; but when I saw it, it was still possible to take the sketches I add herewith, and which permit me to describe it more succinctly. (Fig. 32.)

The tomb was a little subterranean cell of rectangular form 3.20 x 2.80 m. and about 3 m. in height, and was entered by a staircase on the south 1.20 m. wide. It was constructed almost entirely in bricks, somewhat roughly, and embedded in a quantity of mortar ; it was, nevertheless, so solid as to come down to us almost intact. The sepulchral cell was covered by a high arched ceiling, about 1 m. high from the spring, marked by a very simple cornice of two courses of projecting bricks. The axis of the ceiling was from south to north parallel to the two longer sides, and its section was scarcely less than circular. As is apparent from the accompanying drawings, the three walls of the cell placed at the sides and opposite the entrance wall, had each a large niche filling it almost entirely. This niche, nearly 60 cm. in depth, indicated that the thickness of each wall exceeded 1 m.

The niches were covered by an *arcosolium* very well constructed and resting upon two broad bases limiting the lower

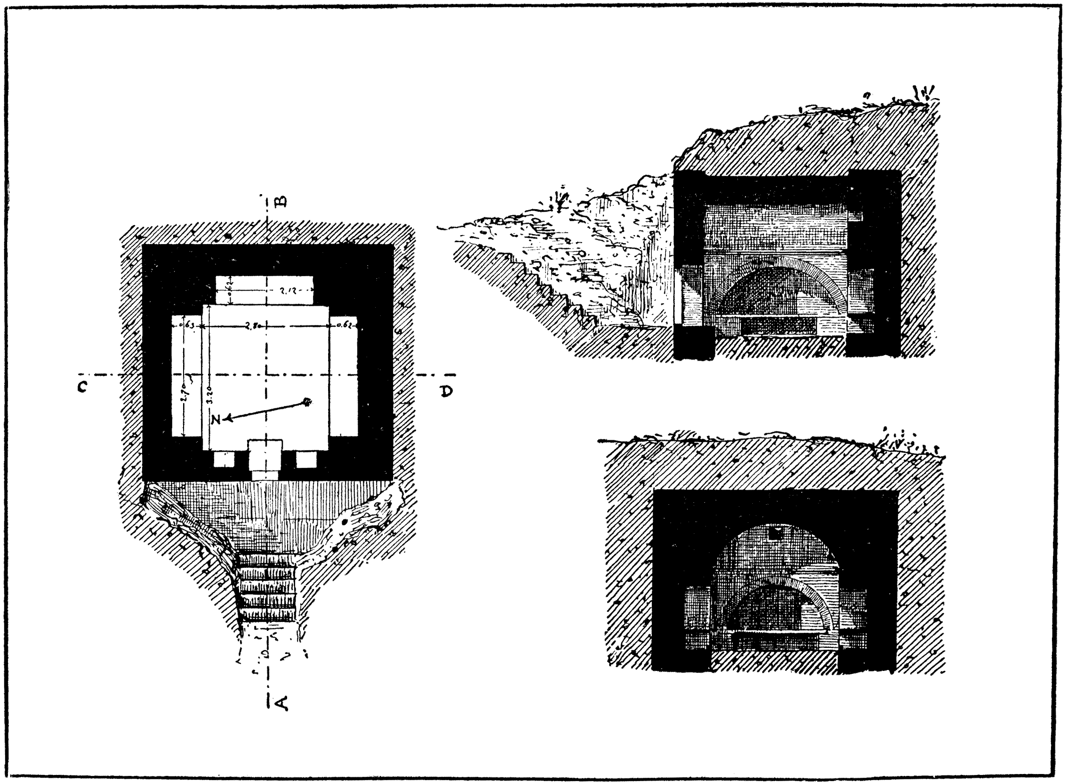

Figure 32.—Roman Tomb at Gortyna. The Upper Right-hand Plan gives Section AB; the Lower, Section CD.

part of the niche itself. It was thus divided into two stories, each one forming a funeral couch. The upper one, formed of a slab of fine *poros*-stone from the labyrinth, beautifully levelled, and about 0.20 m. thick, rested upon the bases of the *arcosolium;* the height of this space reserved for the upper story of the niche was 1.05 m. and the width about 2 m., and was given by the development of the *arcosolium.* More limited was the lower story, only 1.65 m. long and scarcely 0.40 high. The bottom of this lower bed was on a level with the floor of the cell, but divided from it by a slight kind of threshold in stone. In the entrance wall, on each side of the door, was another niche in the thickness of the wall, about 0.40 m. from the ground, 0.80 m. high, 0.60 m. wide, and 0.40 m. deep. The minor dimensions of these two niches indicate either that they were reserved for the bodies of children, or else were to contain small cinerary urns, in case the cell was to serve for successive sepulture. A little terra-cotta urn with rude ornamentation was found broken near the left niche; from its narrowness and its height, it indicated much more a cinerary urn than a receptacle for a child's body. The floor had been paved with slabs of stone, but they had all been taken up by the profaners of the grave, in the hopes of finding objects of value or coins. In stone were also the doorposts, the threshold, and architrave. It is impossible to say whether the door had also consisted of a stone slab, turning on hinges or was simply walled in; thus also, the internal dispositions for the dead remained quite unknown to us, nor could we discover whether sarcophagi had been placed in the three large upper niches, or whether the dead had been simply deposited in them and walled in with slabs as in the lower *cubicula.* No trace remained to throw any light upon these particulars, nor could we hear anything as to the objects found in the tomb from the proprietors of the place.

Similarly every epigraphic indication is wanting, both within the tomb and externally: it is not, however, difficult to judge of the age of this subterranean cell from its style of construction, on technical Roman lines, since the whole plan and profile of it are perfectly similar to other *hypogaea* existing in the island, such as those of H. Thomas and of Priniá. The tombs of these two localities are completely excavated in the rock, a calcareous Tertiary of very easy excavation; whilst, on the contrary, in the alluvial plain of Gortyna, the sepulchral cell had to be entirely constructed of strong masonry in brick and stone. As Halbherr and Mariani have ascribed the above-mentioned tombs of H. Thomas[1] to a late Greek and a Roman epoch,—I also am of opinion that to the same period may be ascribed these, our tombs of the plain, as well as that of the Gortynian Acropolis, which reveals very plain characters of a greater decadence.

In accordance with the ancient custom of burial near and along the public roads, it is probable that such a road passed near the little cell, but no trace of it remains visible. If not difficult to fix approximatively the epoch of this tomb, its location, however, remains a puzzle, because there is no doubt that it is within the area of the city itself. And the existence of a tomb, or perhaps even a group of tombs of the Roman epoch placed so near the dwellings of the living, is in direct contradiction to all we believe we know about the hygienic and funerary rules of the same age. Let me be permitted, however, to make an observation upon this subject, suggested to me by examining the ruins of Gortyna. Whoever makes a hasty tour through the zone extending around the Acropolis of H. Ioannis, comprising the fertile plain which extends from H. Decà as far as Mitropolis and Ambèluso, and then takes a southern direction almost to Choustoulianà, will see how it is sprinkled all over with ruins; some still imposing, like the *Megali Porta*, the amphitheatre, the so-called Praetorium; others scarcely indicated by a few traces hardly above ground,—and will easily be persuaded that the whole of this space was once, without interruption, occupied by the city.

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[1] Halbherr, *Museo Italiano*, III, p. 687. Mariani, *Monumenti antichi*, VI, p. 332, fig. 88. I myself maintain elsewhere that the tombs excavated in the rock near Priniá (Malevisi) are of the Roman age.

This being the case, we should have a city four times larger than the Candia of to-day, and should be forced to admit a population numerous in proportion to the means of the valley in which Gortyna rose, and to the character itself of the region whose capital she was. Hence, according to my conception, at the Roman epoch, the city must have been much more populous than earlier; and according to the rules of comfort and ease prevailing in the dominating race in an epoch of profound peace, it was surrounded by gardens and groves which rendered more endurable during the hot season the residence in that sunny plain. The interior of the city would also abound in free spaces, well-planted and watered, the better class of dwellings grouped about the temples and other public edifices. Nor would tombs be wanting in these spaces, even in the times when hygienic and civic prescriptions were most respected.

Later still, then, and contemporaneously with the progressive diminution of the population which accompanied and characterized the decay of the Roman power, — the anaemia, as it were, of a once vigorous body, — the inhabited quarters of Gortyna gradually became less populous, they shrank away, as it were, from each other slowly but continually; and whilst the later inhabitants of Gortyna drew together about the Acropolis and upon it, the insecure and perhaps already unhealthy plain became by degrees a desert; and amongst the ruins of its edifices, speedily invaded by the insolent vegetation, rose the poor chapels and modest sanctuaries of the New Faith — sanctuaries around which, as centres, grew the present villages that occupy the once famous area of Gortyna.

Besides these few buildings on the Acropolis and in the surrounding plain, I was able to examine some other ruins in the course of my peregrinations through the country during my not brief abode in H. Deca; but partly from the very dilapidated state of those ruins, and partly from the impossibility of making at the moment detailed excavations, I fear my later notes would be still more imperfect than those already published. I therefore bring these memoranda to a conclusion, fervently hoping that the miserable conditions of that noble country being at last remedied forever, it may be possible to resume and bring to a successful issue an exploration which I do not doubt will be fruitful in important and satisfactory results.

ANTONIO TARAMELLI.

TURIN, 1899.